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The Development of Migratory Beekeeping

By Frank C. Pellett.

This historical survey introduces in our anniversary year, a form of review which will be used several times through the year to cover subjects about which there is no single article suited to a fair presentation. Migratory beekeeping is fast becoming a usual modern practice.

IN 1878, C. O. PERRINE, of Chicago, a dealer in honey, conceived the idea of a floating apiary on the Mississippi River. He thought that by moving the bees north as spring advanced, it would be possible to extend the season and keep the bees busy for a much longer period.

He, accordingly, purchased a steam boat in Louisiana and started north in early spring. About fifteen thousand dollars were invested in the outfit, including steamboat, barges and bees with their equipment. A crew of fifteen or more men was required to manage the boat and care for the bees.

The outfit was described in the American Bee Journal as follows:

"The hives stand in four walls, five hives one above the other, nearly the whole length of the boat, about 250 hives in each line.

"The walls of colonies on the right side and left side have openings for the bees to come out on the water front; a space of two feet between the hives and the guards answers for a gallery for the bee man to walk on in front of the hives.

"In the middle of the boat there are two other walls of colonies, 250 hives in each, facing an inner court six feet in width. The bees from these colonies reach the open air through the sky line opening in the roof above the court.

"Between the first and second rows of hives from the outside there is an aisle three feet in width, for the convenience of handling the hives and the honey.

"The distance from the barge deck to the roof over the colonies is fifteen feet. The space below the deck is ten feet in width and about seven feet high, and is to be used for sleeping apartments, making and repairing hives, handling and extracting honey and putting it in marketable shape. The dining room and cooking will be on the steamer that tows the bee fleet."

Perrine planned to harvest big crops with his fleet of barges which were to carry from 1000 to 2000 colonies of bees. He had visions of shipping the honey direct to Europe, as he was exporting extensively at that time.

The start was made with 1000 colonies arranged as above described. The intention was to reach St. Paul, Minnesota, a distance of about 2000 miles, by the end of July. Apparently no one connected with the enterprise had any clear idea of nectar sources and honeyflow, since the thought was expressed that so many bees would harvest the cream of the available honey in any location in one or two days. Instead of remaining quiet when a good flow was on, the outfit kept on moving and thus missed the best of the possible crop.

Starting from New Orleans on May 14, the steamer had proceeded only sixty miles upstream when an accident required the owner to return to the city for repairs, leaving the boat tied up to the bank. So many delays occurred through accidents and breakage of machinery, that the progress north was very slow. Finally the barges were abandoned and the bees placed aboard the steamer itself. Every few days the boat would stop and set the hives on shore to permit the bees to gather the available harvest, then they were reloaded and the movement north resumed. Although it appears to have been late in summer before the boat reached St. Louis, it was announced that the journey would be completed through to St. Paul and then the bees moved south again for the winter. Perrine proposed to start north again the following spring with 2000 colonies, leaving New Orleans not later than April first.

Perrine returned to Chicago in October, leaving the remaining 600 colonies of bees near the bank of the river in Calhoun County, Illinois. There he expected to leave them until November, or until the yellow fever had subsided, when he expected to move them down the river again.

Perrine's attempt appears to have aroused an immense amount of interest, and at least one other beekeeper attempted to follow his example. W. B. Rush left New Orleans

A long line of night travelers, arriving at the orchard from apiaries perhaps several hundred miles away; one kind of migratory beekeeping of today that is reaching large proportions.

with a small boat and 61 hives of bees for a similar trip north. He went as far north as Pekin, on the Illinois River.

At the winter meeting of the Eastern Iowa and Western Illinois Beekeepers' Association, Perrine spoke of his experiment and stated that heavy losses of bees occurred from falling into the water, as much as 25%, he estimated. He proposed to try again the following season, moving the bees only at night. The result, as would be expected, was disappointing and the following year he told of his failure at the convention of the North American Association. There he stated that, after several attempts to establish a floating apiary, he would advise the bee men to keep as far as possible from large bodies of water. He had lost most of his working force of bees in two days when they fell into the water during a cold wind.

Perrine was not entirely persuaded that migratory beekeeping could not be made to succeed, but he proposed in the future to move the bees by rail.

Little was heard about migratory beekeeping for several years after Perrine's disastrous experience. In the late eighties, O. O. Poppleton, a successful Iowa beekeeper, began spending his winters in Florida because of poor health. Finding that the mild climate was conducive to improved physical condition, Poppleton moved to Florida and settled on the Indian River. He adopted the "Long Idea" hive which held twenty-five frames which were twelve inches square. No supers were used, and filled frames were removed from the hive body itself when ready for extracting.

Poppleton argued that such a hive was never top-heavy and could not be blown over by heavy wind and that there were no heavy filled supers to be lifted.

He found the river an ideal place for him, as by means of a gasoline launch he was able to move his bees from place to place in search of pasture. Up and down the river there is a variety of plants which come into bloom at different times. When conditions were unfavorable in one locality, he sought pasture elsewhere. At times he had bees in locations a hundred miles or more apart.

Poppleton thus became the first successful migratory beekeeper who became well known to the readers of the bee magazines. He continued his operations in Florida for many years and harvested some large crops of honey from palmetto and other southern plants.

A few years later W. J. Stahmann, of Wisconsin, was advised that a change of climate would be necessary for his wife who was in poor health. He was a successful beekeeper and had no intention of abandoning his bees. He, accordingly, bought a cabin boat and a large barge and took both his family and his bees to the river. The first summer was spent on the St. Croix River with a fortunate location selected for the

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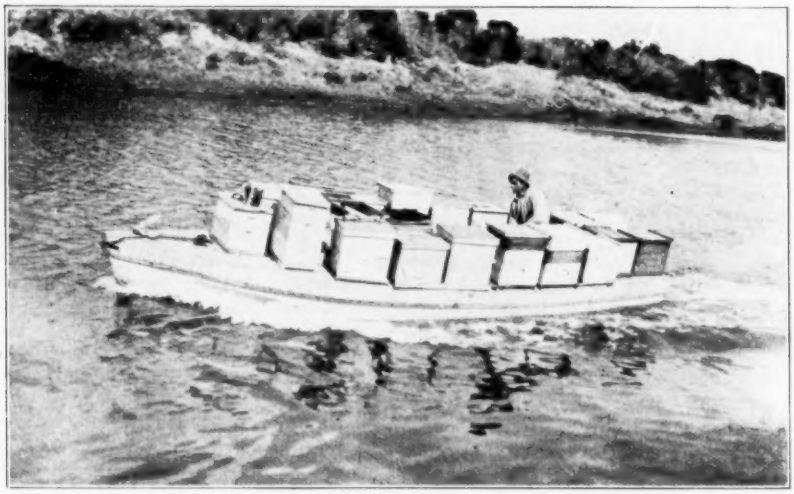

A launch load of honey makers, hiking for a new spot in the South's river country. Hunting for successive locations to get more honey is one phase of economic pressure that has compelled the development of migratory beekeeping.

Ontario Honey Producers' Cooperative's Eleventh Year

By Morley Pettit, President, Ontario.

WE, AS SHAREHOLDERS of the Ontario Honey Producers' Co-Operative Ltd., are met together to consider the Eleventh Annual Report of our Directors and Management—the sale of the eleventh crop we have produced since the formation of the Company.

Much water has passed under the bridges since we first organized back in 1923. About that time a number of Co-Operatives were formed with very altruistic ideas about uplifting the particular industry concerned. Ours is almost the only one of that crop of Co-Operatives that has survived and if the idea of uplifting the industry had not been abandoned in favor of the more selfish idea of doing the best possible for the faithful members, it is doubtful if we would have escaped the fate of the others.

Co-Operation in the marketing of any product is a beautiful theory, which with full co-operation and all wisdom would be beneficial to all concerned, but since we are mostly selfish and human, it does not always work out. It has been the experience of our Company that we could not control prices by taking in all the honey that was offered and the effort to do so cost us out of all proportion to any benefit derived. Many other mistakes were made as well and the chief of them was no doubt the reluctance of the Directors to direct.

The original idea was that a high priced experienced Executive employed as dictator should give good results. That was the idea of most of that early crop of Co-Operatives. As we all know now it did not work out, so the Directors who were originally just beekeepers, finally developed enough experience and courage to assert themselves and fire the high priced executives, who had refused to co-operate with the Directors and take over the management themselves.

Everyone of the seven directors and the office manager, the sales manager, the plant manager and in fact every permanent employee to a greater or lesser degree took part in the management as the spirit of co-operation spread throughout the organization. It is an old story now to most of us, but it will bear repeating. How one after another of the directors was made consulting director under the old management to make the directors familiar with the inner workings. How one director who seemed best qualified was sent on selling trips, while another took charge of the plant temporarily and so on. How a director was made managing director in place of the retiring general manager. How a cost system was installed by which the cost of every operation in the plant could be determined. How the grading of incoming honey and the special consumer brands were established. How costs were cut to the bone all the way along the line and unprofitable operations abandoned.

I say that most of this is an old story, and what is not will be enlarged on by the men who follow me in this program. The most radical changes in policy so far as producers are concerned are the attitude of the Head Office towards shippers on the one hand and towards markets on the other. Cost accounting has shown that whereas we can make a nice return to shippers on what honey is sold in consumer packages, the sale

THE ONTARIO HONEY PRODUCERS' CO-OPERATIVE LIMITED
5 Defries Street, Toronto, Ontario.

BALANCE SHEET as at NOVEMBER 30th, 1934.

ASSETS:			
1. Cash in Bank	$ 2,948.66		
2. Cash on Hand	829.80	$ 3,778.46	
3. Bills Receivable	31,290.02		
4. Accounts Receivable	6,502.43		
5. Sundry Debtors	3,688.73		
	41,481.18		
6. Reserve for Bad Debts	4,396.40	37,084.78	
7. Honey Inventory, 970,395 lbs.	77,331.46		
8. Supply Inventory	11,036.28	88,367.74	
10. Prepaid Expenses		946.32	$130,177.30
11. Investment—R. & W. Gale & Co. £750 shares @ par			3,645.00
12. Fixed Assets		25,123.19	
13. Reserve for Depreciation		17,638.15	7,485.04
14. Deferred Charges—Advertising, Equipment, etc.			1,005.00
			142,312.34
LIABILITIES:			
1. Outstanding cheques		6,162.42	
15. Bank Loan		11,000.00	
17. Accounts Payable		5,079.54	
Sundry Creditors		1,136.93	
18. Accrued Charges		2,626.25	26,005.14
19. Producers' Equity			81,969.05
20. Contingent Reserve			2,025.65
21. Capital Stock—			
Authorized 4000 @ $25.00		$100,000.00	
Issued and paid 1076		26,900.00	
Subscribed, 433,	$10,825.00		
Less unpaid	5,412.50	5,412.50	32,312.50
			142,312.34

Company Auditors:

Fred Page Higgins & Company,
Toronto, Canada.

of honey in bulk containers gives a far lower return, in fact so much lower as to be unprofitable. The Directors have therefore adopted a policy of not taking in more honey in any one year than the Management can pack and sell profitably in that same year. This is revolutionary, as you will all see at a glance, but it is a policy which has been urged upon the Directors by several shippers for some years. Of the 1933 crop, we had not enough honey to operate the Company to the best advantage for the simple reason that the returns on 1932 honey were so much lower than the prices obtained by independent sale, but as the 1933 returns were upwards of 3c per pounds above those of 1932 and compared favorably with independent prices, we have been compelled to close the receiving doors of the warehouse to stop the influx of 1934 honey. Judging by reports coming in from all sides, the tables are now turned and instead of the poor old Co-Operative being loaded up with honey and being cursed for not making good net return, the surplus honey is now in the hands of the independents and we have taken in just what we expect to be able to sell to best advantage.

The outstanding event of the year is the closing of the 1933 pool in May, 1934, increasing the net return to the shippers by about 60% over that of recent years and the remarkable fact is that it was accomplished largely by economies in Management as the sale price was only increased about 10%. As the producer's operating cost does not change materially from year to year, it will readily be seen that such an increase in net returns is all to the good and lifts the producer's net income from a bare subsistence to a fairly comfortable living.

As previously stated the improvement in returns to shipping members has been accomplished by rigid economies in Management secured through closer co-operation within the organization and by confining sales as largely as possible to consumer packages. This is quite the logical course to pursue, for it simply makes a fuller use of the warehouse, packing plant and sales force which we already have. The old idea of controlling prices by taking in a large percentage of the crop has proven to be entirely wrong. The newer and better idea is to prepare all grades of honey in specified brands backed up by uniformity of quality and continuity of supply. This policy faithfully pursued is putting "Beekist" honey in its four standard brands on the grocer's shelves as a staple food along side of jellies, jams, marmalades and all of its other competitors. It thus becomes a food which people buy continuously and not only in one special season of the year. The crop was mostly sold in Canada.

The year 1934 has been marked by what is practically a boon in beekeeping and the fact that the Ontario Agricultural College now has one of the largest beekeeping short courses on record would indicate a continuation of the boom into 1935. What this will do to honey markets is a question. Much will depend on the 1935 crop and if it happens to be large, great attention will have to be paid to orderly marketing. The Co-Operative has no further ambition to pose as a philanthropist in an effort to uplift the industry. Most of its early efforts along with some later government activities have proved to be entirely abortive. We have now settled down to the idea that after the beekeeper has sold all the honey he profitably can in his own neighborhood his surplus should go to different packing plants, not one only, where it is graded and prepared in the best possible manner under established brands. Toward all such concerns we extend the best spirit of co-operation and further than that our highest ambition is to handle just as much honey from our members as we can sell to the very best advantage possible.

In the 1933 pool the Ontario Honey Producers' Co-Operative Limited handled about one million pounds and in the 1934 pool there has been taken in about one and a half million pounds, which is considered to be as much as can be handled by this company to advantage. The total production of honey in Canada is estimated roughly at thirty million pounds.

The Development of Migratory Beekeeping

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bees. A crop of 45,000 pounds of honey was harvested, and Mrs. Stahmann began to improve in health. After the crop was sold, he started down the Mississippi. When the mouth of the White River was reached, they moved up that stream in search of another suitable location. The following summer was spent on the White River, with a smaller crop harvested which was of poor quality. Expenses were high and the venture was losing money. When it became apparent that the river venture could not succeed, it was abandoned and Stahmann moved to Clint, Texas, where he became very successful as a honey producer and large-scale farmer.

J. S. Harbison, of California, was probably the first to call attention to the possibility of successful migrations by means of the railroad. In 1876, when the crop was exhausted in the home location, he loaded his bees on the cars and moved them sixty miles into the foothills of the Sierra Nevada Mountains, where the manzanita and buckeye were in bloom. Later he moved again to Truckee for later blooms, returning to his home location for the winter.

Later, another Californian was to become famous because of his frequent movement of bees in carlots. He became known as Migratory Graham, and boasted that he had kept bees in thirty-two California counties and five valleys in Nevada. According to his own statement in 1918, he had shipped 161 cars of bees.

A typical season with him was to start the bees in the almond belt of Butte or Colusa Counties. From there he would move to orange in Tulare County and then back to the Sacramento or San Joaquin Valley to the seed belt. From there he would go north to alfalfa and south again for jackass clover.

Graham had more ups and downs than usually fall to the lot of the man who aspires to do things on a big scale. At one time he had 3000 colonies of bees and the best equipment on the Pacific Coast, and produced a crop of one hundred and twenty tons in one season. Bee disease resulted in serious complications for him, and he was frequently in difficulties because of the disease laws.

The high cost of preparation, the long haul by freight and loading and unloading, and moving to apiary sites with horses and wagons, resulted in too much expense to make migratory beekeeping by rail a practical method. The auto changed all this. It was the automobile which made migratory beekeeping really practical. With the perfection of this machine it became possible to load an outfit and move it a long distance and set it down in the new location within a few hours. Migratory beekeeping has become common practice, especially in California, where large areas are devoted to the production of some special crop.

Many western bee men follow Graham's example and move three or more times in a season. Two or more crops from the same outfit in widely separated localities, is the usual and expected procedure in many places.

Get a Sweet Smoke With "Yellow-Bole"

Makers of "Yellow-Bole" Imperial pipes, a K. B. & B. product, are now curing selected briar pipes, with the familiar Yellow-Bole, with real honey and so advertising it in space and counter cards. Just what the value of the honey is we do not know. However, our local dealer says that Yellow-Bole pipes so cured outsell the others so there must be something to it.

Late Winter Impressions from the Southeast

By M. G. Dadant,
Illinois.

There will be two parts to this story, the second to be in May. The Southeast has been well described before in the Journal and this long trip gave M. G. Dadant a fine opportunity to bring home first-hand information about a large beekeeping region.

The three travelers, Hiett, Prevost, and Carey, enjoying the sunshine at Saluda.

WHEN MR. HIETT, of the Lewis-Lynchburg branch, invited me to accompany him on a trip through the states of Virginia and the Carolinas early in February, I hastened to accept it, because, among other things, I would be down in the Sunny South at a time when the wintry winds with snows were raging in Illinois.

My companions on the trip, which lasted nearly a month, had many a laugh on me because, even if I did leave zero weather at home, I shivered most everywhere I went, and was accused by Mr. J. H. Cary of being afraid to change my red flannels for a more appropriate suit according to the temperature readings of that region. But I shivered on, nevertheless.

It snows in Virginia. This beautiful scene is near Lynchburg.

Prevost and the author in the Blue Ridge Country.

The humidity is what bothered me, just as the humidity of Illinois is markedly noticeable to the dweller in the dry cold climate of the mountain regions.

But the trip was a pleasant and interesting one. Our plan was to drive down the Piedmont, attending the Virginia and North Carolina meetings as we went. Then a series of some six county meetings in South Carolina in company with my good friend, Ned Prevost, then cross over to the coastal country and back up along the Atlantic Coast, visiting the larger beekeepers, and finally back across to Lynchburg. This is just what we did, covering some two thousand miles in the course of our journey.

Lest some of my readers may not be up any better geographically than I was, I may explain that the Piedmont is that great range of hills extending along the Allegheny and Blue Ridge Mountains from northeast to southwest till the last of them disappear into the coastal region of north central Georgia. The Piedmont itself is some two hundred miles wide from east to west, starting with the mountainous foothills on the west and gradually tapering off near the coastal region.

In fact Mr. F. B. Meacham, teaching beekeeping at Raleigh, whom we visited during the trip, corroborated my impression that the honey producing areas of the region can roughly be divided into two distinct sections. The first one is in the mountains themselves and the upper Piedmont; the second is the lower coastal plain with its many swamps and low lying ground. In between the two, honey production is not so good, but it is interspersed with a little of both types of honey plants, the trees indigenous to the hills, and the shrubs and trees of the swamp.

From this statement my reader will infer that trees and shrubs must be the honey producers of both these sections. And such a statement is more than half correct. In the Piedmont are the sourwood with its unsurpassed honey, the tulip poplar, a most profuse yielder, and others such as the holly, persimmon and sumac. In the coastal areas the tupelo, black

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It's Time to Go

For five years America has been in the dumps. Gloom and depression have reached such depths that many have come to feel that prosperity can never return. Men in high places are saying that two-thirds of the people can now produce enough for all and that opportunities such as we knew in the past will not be available to the rising generation.

All this is rot and rubbish. Never in the history of the world has there been reason for opportunity such as exists right now. Perhaps two thirds of the people can produce enough of the actual necessities of life to supply all, but the American people will never be satisfied with mere necessities. Everybody wants a radio, and an automobile, a bathtub and an automatic heating unit for the home. We all want good clothes and better roads, electric stoves and ultra-violet lamps to bring sunshine into the living rooms in winter.

With even such commonplace requirements as paint for the house and everyday clothes badly needed, why talk about lack of opportunity. With millions lacking sufficient food for a well balanced diet it is not yet time to talk about limiting the output of our farms. Our trouble has been in our heads. We have been scared to death. Here we are the richest nation on earth, with more gold and more goods than any nation ever had before, with fear in our hearts. Let us stop and reason a bit and see how many human wants are yet unsatisfied and what prosperity must come when we get into action to meet this demand. There is every reason to expect the busiest and most prosperous years we have ever seen. Let us forget the past and get busy. Five years is long enough for a national gloom chasing event. If only the mental attitude of the whole people can be changed and we can cultivate the idea of plenty instead of scarcity things will move forward.

As far as the beekeeper is concerned there is every reason for optimism. Bakers are using honey as never before and honey baked goods are becoming staple in many cities. So many new demands for our product are appearing as to insure prosperity for the honey producer for years to come.

Larger Yields in Britain

In a recent issue the editor of the Scottish Beekeeper comments on the larger crops of honey of late as compared to the years gone by. He even tells of yields of 200 pounds per hive which indicates that the large crops in this country may be duplicated in Scotland with the same management. It required many years for American beekeepers to learn that to get good crops there must be hives of ample capacity and now it appears that British beekeepers are learning the same lesson. It is strange how we cling to outworn methods of the past when evidence of better things is clearly shown. Small hives with small colonies brought small returns but it took a long time to convince the men who had always used them that something more efficient was available.

More Poison

So many reports of loss of bees from poison used in the destruction of insect pests are received that there can be no question but that it has become a problem of major importance to the beekeeper.

As has been stated in these columns on other occasions, we feel that the time has come when government agencies must give some attention to the matter. An army of entomologists has been employed to find ways and means of destroying insects and saving crops. Too often the result has been the loss of useful life such as bees and wild animals as well as farm live stock.

We must recognize the fact that no destructive campaign has as yet solved the problem of control of a well established insect pest. We may spend enough for poison to save a portion of the fruit crop but the pest will be as bad another year. The cost of such protection has increased from year to year until many fruit growers are now finding the cost so excessive as to leave but little for the grower when the expenses are paid. In the average apple orchard the grower now has more wormy apples after six to eight applications of poison than he had after two or three a few years ago. This being the case better methods of control are imperative.

Regardless of profit or loss to the fruit grower, the beekeeper is entitled to protection. Fruit growers now recognize that the bees are essential to proper pollination of the blossoms and if the bees are driven from the orchards the crops will no longer be profitable. It therefore appears that the need of solving the problem is a mutual one in which fruit grower and beekeeper are alike interested.

The problem has been greatly intensified by the growing of single crops in large areas where formerly there was diversification. Some horticulturists feel that unless some new and more efficient method of insect control is found it will soon become impossible to continue this large scale specialization.

Some Breeding Results

In the proceedings of the Iowa Academy of Sciences for 1933 appears a paper by W. B. Lambert giving the results of selecting for disease resistance in poultry. He points out that five generations of selection for resistance to fowl typhoid has resulted in a great decrease in the mortality of the selected stocks.

We quote as follows: "Specifically the effect of the selection was to decrease the mortality from approximately 85 per cent in the unselected parental stock to slightly more than ten per cent in the fifth selected generation."

This is certainly a most gratifying result. If it is possible to decrease the disease by 75 per cent in five generations by selection in the case of fowl typhoid there is certainly reason to believe that bee disease can be decreased in similar manner. If by this method we can eliminate three-fourths of our bee disease it will no longer be a serious matter.

Local Differences in Wintering

Henry H. Ramsay writes to take issue with the editor on page 85 of the February issue that a cellar should be "dry." He says, "I don't want my cellar dry. If it should get dry I would wet it down thoroughly." This is a good illustration of the importance of care in making general statements. Mr. Ramsay lives in North Dakota, in a very dry climate. The editor lives in a region where humidity is often excessive in winter. In Illinois a dry cellar is essential to successful wintering. Otherwise there is danger of molding of the combs to such an extent that the bees find it difficult to clean them up again.

It would be better if we had a convenient method of measuring the degree of moisture in a cellar the same way as we measure the temperature but few beekeepers

possess the means for such measurement. In general then we may say that the cellar should appear dry in a moist climate and moist in a dry climate. Probably the degree of moisture present would then be about the same in both cases.

Too often it happens that advice which is correct for the region where given does not apply to conditions of readers in different situations. We need to consider carefully any given advice as to whether it is applicable to our own conditions.

Too Many Fires

Fire is the source of enormous losses every year. Uncounted millions of dollars' worth of valuable property go up in smoke every month. When one notes the careless manner in which burning cigars or cigarettes are tossed aside or matches thrown away the wonder is that losses are not greater.

Several heavy losses of stored honey and beekeeping equipment have recently been reported. In a few cases a substantial part of the loss was covered by insurance but too often the beekeeper has lacked such protection. The heaviest losses have been in cases where the fire came at a time when all supers were in storage and before the honey crop had been moved. Thus the beekeeper lost his current year's income in the destruction of the crop of honey and much of his capital investment in the loss of equipment.

We would urge every beekeeper to provide insurance to cover a substantial portion of the loss in case of fire and in addition to exercise the greatest care to see that no fire occurs. Beehives and dry extracting combs are very inflammable once a fire is started and little salvage is likely to remain.

An Important Committee

American beekeepers are to be congratulated on the high standing of the members of the advisory committee of the American Honey Institute. Chairman Lewis Parks has recently announced the personnel of the committee as follows: Miss Mary I. Barber, of the Kellogg Company; Miss Jean Gutherie, associate editor of Better Homes and Gardens; Mrs. Marjorie Child Husted, of General Mills; Mrs. Caroline B. King, of Country Gentleman; Mrs. Luella Mortensen, of Wisconsin College of Agriculture; Dr. Mabel P. Nelson, of Iowa College of Agriculture; Miss Joan Rock, of Hutchison Advertising Agency; Miss Dorothy E. Shank of American Stove Company; Miss Annette Snapper, of Premier-Pabst Company and Mr. L. B. Williams, of the Dried Fruit Institute.

It would be difficult to get together a committee in the field of foods with a higher standing than the one here assembled. Mr. Parks with the help of such a committee should be in position to direct the activities of the American Honey Institute into very productive channels.

It speaks well for the honey producing industry and the Institute that persons in such responsible and busy positions are willing to give their services to the advancement of the interests of our craft. Their generosity should be fully appreciated.

Honey Grading

The buyer of food products is becoming more and more discriminating and this fact makes it essential that all such items be properly graded before going to market. Honey has lagged behind other foods in this particular. When established markets are available and a uniform product can be depended upon by the buyer a much greater measure of prosperity can be expected for the honey producer.

The great difficulty in establishing compulsory grading of honey lies in the fact that so few beekeepers are within reach of a ready market. The beekeeper is yet in the same position occupied by the poultry man and dairyman of fifty years ago when every farm depended upon peddling the eggs and butter wherever a buyer could be found. When cash markets were set up the farmer took his eggs and butter to the produce buyer who paid him cash and in turn graded it before offering it to the consumer. Better prices have come for eggs and butter as a result of this change and better prices can be expected for honey when the beekeeper can be served in similar manner.

To establish laws requiring the grading of honey in advance of the time when such markets are available will add greatly to the difficulties of the small beekeeper who is not familiar with market requirements and who does not have enough of any one grade to make a satisfactory shipment. Beekeepers must expect to keep step with the times and since the consumer demands quality and uniformity it is important that steps be taken to meet this need. It is better to provide proper grading voluntarily than to have it forced upon us by a critical public.

A Critical Season

April is the most critical period of the year in many northern localities. At this time brood rearing is in progress and the weather is very uncertain. When a spell of balmy weather is followed by severe cold, the brood is often chilled and heavy losses to the colony result. Add to this the danger of shortage of stores and one can readily see that this is in fact a danger period.

The novice seldom appreciates the amount of honey needed for normal colony development at this time of year. Honey and pollen are consumed very rapidly as young brood appears in the hive. The more honey and pollen that can be converted into bees now the larger the crop of surplus honey is likely to be when the honey-flow comes.

A colony with a young queen and a fair sized cluster of bees should prosper exceedingly if provided with stores and protected from chilling winds. We have called attention on many previous occasions to the importance of placing the apiary in a situation which is protected from prevailing winds. Such protection is as important during spring brood rearing as in the severest winter weather.

Teachers of beekeeping have long cautioned beginners that the essentials of successful beekeeping could be included in the one sentence; "room, stores and protection." At this season there must be room for colony expansion and there must be sufficient stores to carry the bees through until the harvest and there must be protection from cold. Probably at this date the greatest danger is a shortage of food if a period of prolonged cold and wet weather should occur. One should not hesitate to provide the bees with an ample reserve since any not needed will be safely stored away in the hive.

Is There a Model Extracting House?

We have frequent inquiry for floor plans for a model extracting house. Unfortunately we have been unable to provide this service. After visiting hundreds of beekeepers we have come to the conclusion that the honey house seldom receives careful consideration in its planning. As a rule a building is hastily erected and the equipment put in place with little regard to convenience or facility in operation.

However, there must be many well arranged and economically built honey houses and we would like to know the details of construction, arrangement and cost.

Danger from Disease

At this season of the year every beekeeper should watch carefully for the appearance of disease. Too often it is spread badly before its presence is noticed. It is important to detect it in the early stages and deal with it promptly.

Do not let the agitation for resistant bees put you off guard. The search for bees which may be able to resist disease will not remove the immediate danger from the bees which do not possess this quality.

HONEY PLANTS

Varieties of Sweet Clover

SO MUCH has been written about the varieties of sweet clover that some confusion has resulted. An interested subscriber asks for a description of the principal varieties with the special uses of each.

There are two species of sweet clover widely cultivated in this country. One is the well known white flowered sweet clover, **(Melilotus alba)**, the other the yellow flowered sweet clover, **(Melilotus officinalis)**. Selections have been made from both these plants which show special traits and have been distributed under special names.

The common white flowered sweet clover is a biennial, a well known plant which came from the old world many years ago. It is widely known as Bokara Clover, Bee Clover, Melilot and sometimes by its scientific name "Melilotus." It is a native of Central Asia and is known to have grown for more than 2000 years in the region about the Mediterranean Sea. It is now scattered over most of the civilized world but has only in recent years been fully appreciated as a valuable forage plant.

Grundy County White Sweet Clover

About 1916 it was discovered that the strain of white sweet clover commonly grown in Grundy County, Illinois, was of finer stem and earlier bloom than the common kind. This strain has since then been widely distributed under the name of its place of origin. Nothing is known of it prior to its recognition in the Illinois neighborhood and it appears to have been the result of natural selection. Beekeepers are interested especially because its habit of early bloom which prolongs the season of honeyflow when planted with other varieties.

Hubam or Annual Sweet Clover

In the spring of 1916, Prof. H. D. Hughes, of Iowa State College of Agriculture, discovered that certain sweet clover plants bloomed the first year. Prof. Hughes saved the seed and distributed in small quantities to a number of interested persons. Later investigation revealed that annual white sweet clover was probably more widely distributed and more common than had been recognized. For a time great interest was manifested in the plant which was named "Hubam" as a combination of the name of the discoverer and Alabama, the state from which it came. For a few years the demand for seed approached the proportions of a small boom but it soon subsided and little is now heard of it. The fact that it matures seed the first year offers an advantage for certain uses in the farm rotation.

Arctic Clover

This variety has been developed from a hardy strain of white sweet clover brought from Siberia by Prof. N. E. Hansen, of Brookings, South Dakota. It differs but little from the common white sweet clover except in hardiness. It stands the most severe winters where others kill out. It has proved of special value in the western Canadian provinces and has been distributed under name "Arctic Sweet Clover" by the College of Agriculture of Saskatchewan.

Yellow Sweet Clover

The large yellow sweet clover, **(Melilotus officinalis)**, comes from the same region as the white form and is now distributed over the world in much the same manner. Like the other it is a biennial. It is more spreading in habit, does not grow as coarse or tall and blooms earlier. Generally it can be depended upon to begin blooming about two weeks ahead of the common white sweet clover while but little ahead of the Grundy County White.

Redfield Sweet Clover

The Redfield sweet clover is a strain of the yellow flowered variety which came from Manchuria. It was developed at Redfield, South Dakota and distributed from there, hence the name. It is especially adapted to the Plains Region from Kansas north and is said to make the best hay of any variety of sweet clover commonly grown. It blooms late and greatly extends the season of bloom by offering a honeyflow in most localities after the others have stopped blooming.

Alpha Clover

The latest thing to arouse interest is the Alpha clover which is a white flowered mutation found in the fields of the Saskatchewan Experiment Station. It varies greatly from ordinary varieties of sweet clover in that it has many stems from each root, averaging about thirty. It thus provides many fine stems instead of one coarse one and so makes much better forage. The prospect is that this new strain will prove to be a valuable acquisition to the sweet clover region.

Yellow Annual

There is another yellow flowered variety of little value, **(Melilotus indica)**, commonly called yellow annual or sour clover. It makes but little growth and is regarded of but little value as a field crop. Accordingly it is but little cultivated in regions where the better kinds do well. It is well thought of in some sections of California where it does much better than in the cold regions. It belongs in a warm climate.

Other Varieties

There are several other species known to occur in Europe and Asia which have not been of sufficient promise to encourage their importation to this country. It is possible that some among them may yet prove to be useful in certain sections where they are adapted to local conditions.

Frank C. Pellett.

The Roycrofters Feature Honey De Luxe

You have heard of The Roycrofters at E. Aurora, New York, founded by Elbert Hubbard 1895. It is a unique institution featuring specialty products, books, homecraft novelties, and so on. In their latest circular, they offer honey in unique packages: an old-fashioned crackle glass bottle filled with white clover honey; an old-fashioned brown crock of white clover honey; and a wooden goodie bucket which contains a little brown jug of maple syrup, a crock of white clover honey, a carton of maple pecans, a carton of maple sugar cakes, a copy of the philosophy of Elbert Hubbard, a hand wrought copper paper knife etched in brass, a leather book mark with an Elbert Hubbard motto stamped in gold. These products are unique specialities featured extensively through large mailing lists.

Problems of the Commercial Shipper of Bees and Queens

By E. C. Bessonet,
Louisiana.

DURING the past twenty years, the production of bees and queens in the South has grown rapidly to meet the demand of the honey producers in the North. Previous to the shipping of bees and queens from the South to the North, the production of honey was uncertain because the northern beekeeper was unable to replace winter losses without seriously curtailing his honey crops. Package bees were quickly recognized as a practical and profitable way to replace winter loss or to make increase or to strengthen colonies to insure more uniform crops.

When shipping became successful, a tremendous demand was created which increased the production of honey in the North considerably and established confidence in commercial honey production.

The possibility of package bees developed the Canadian honey producers and made it possible for many there also to commercialize their business. Previously, heavy winter losses often experienced in the Canadian provinces, were of much concern but with packages, the beekeeper can now depend on having a maximum number of colonies when they are needed.

Methods of wintering in the North have undoubtedly been improved and losses have been obviated to some extent during normal winters but there are still thousands of colonies which perish each year. During the past ten years, the trend has been towards operating large yards for the production of bees and queens in the South and many new men with keen business acumen have appeared.

The business is now highly organized and the service and quality offered by shippers should improve. In fact buyers have a right to demand quality and service when a fair price is being paid for what they buy. Under the present arrangement, reliable shippers enjoy good business but the less desirable shipper may complain of the Marketing Agreement as detrimental to his business.

Wise shippers request that buyers offer constructive ideas which will improve shipping cages and service and in most instances well informed buyers invariably offer worthwhile suggestions for improvement. In our own case, we have been able to incorporate new features in the 1935 cage to help eliminate losses in transit and if they prove to be valuable, that will constitute an improvement towards delivering bees in good condition.

The investment in a large commercial shipping enterprise is greater than the general belief and there are many problems connected with business. Few buyers realize what these are.

Weather is an outstanding factor affecting the production of bees and queens. Any abnormal weather condition will seriously curtail production. During the early months when queen nuclei have to be stocked with bees, the shipper must have comparatively warm weather to insure fair results.

Should there be sudden changes in temperature, the queen cells are apt to be neglected, refused or cut down. Then it is hard to expect a good queen check. Warm feed helps

Above, a typical mating yard in a commercial queen rearing establishment. It represents a large investment.

Below, one of Bessonet's outyards. They may supply packages, or brood and bees for queen rearing; perchance, they may make a bit of honey.

but bees will cluster during cold spells and become inactive.

When warm weather prevails, queen cells will develop, whether a flow is on or not, because stimulative feeding may be used and good cells will be produced. The feeding of queen nuclei will eliminate to some extent the cutting down of cells and the balling of queens but a flow creates a natural condition most desired by the breeder.

Conditions that affect queen production also affect the production of bees because a flow is necessary to stimulate brood rearing. While stimulative feeding of colonies is sometimes practiced, it is expensive and the results are unsatisfactory. If pollen is available, brood rearing may be developed with stimulative feeding but no brood can be produced with just sugar or honey and no pollen.

Strong winds, birds and Argentine ants cause the loss of thousands of queens each year; losses which are unpreventable. In spite of any known protection, the Argentine ant is the most destructive agent known to the beekeeper here. They are intelligent creatures and keep the beekeeper on the alert all the time. Although this pest is not yet to be found everywhere in the South, it is gradually extending in territory and will probably cover the southern states completely in the future. The time and expense required to fight them is large and the losses are great.

With so many hazards in connection with shipping, it is clear that it requires experience to cope with conditions to assure maximum results. A breeder must rely on his judgment and his experience to overcome the hazards. No set rule can be followed when conditions are continually changing. With everything normal, it is easy to rear queens but when unfavorable, it takes experience.

Some buyers realize that reliable shippers make every effort to deliver bees on time; others make conditions very disagreeable for the shipper. Perhaps some shippers will use the weather excuse to cover their lack of ability when the real trouble is some other source. Also, there are a few shippers who may accept more orders than they can fill. Of course, any of these practices work to the detriment of the shipping industry.

But the experienced buyer knows that all shippers may be delayed because of weather and all honest shippers refrain from holding orders beyond a reasonable length of time because they realize that delay may mean a decrease in the crop of honey at the other end.

The replacement of dead bees and queens also must be taken seriously as any delay causes loss in honey. The buyer has the right to get prompt replacements and, of course, the shipper must make them promptly.

The question often arises as to why more northern beekeepers do not kill their bees in the fall, but when the hazards of receiving bees on time are considered, their position can be readily understood. The cost of wintering bees is great and the labor and trouble must also be considered and yet few will kill bees until they have a better assurance of receiving more when they are needed.

When the buyer has full confidence in his shipper, he may dispose of part of his bees and replace them with packages the next year. However, with a better understanding between the shipper and the buyer, the time is not far distant when the practice of disposing of thousands of colonies in the fall in the North will ultimately be followed to the benefit of both the shipper and the buyer. This will be better accomplished when the buyer makes early arrangements with his shipper so that he will be able to avoid disappointment.

If we are to work towards this end, we must cooperate more extensively in the future, as such a venture is risky when the order for bees is not placed early. Through cooperation between the buyers in the North and the shippers in the South, many problems may be worked out which will prove beneficial to the entire industry.

Remarks of Harold J. Clay at Meeting of American Honey Producers' League, Valdosta, Dec. 19, 1934

There is little of news to most of you in the subject of the Honey Market News Report. Many of you are not only receiving the report but are furnishing information that is used in compiling it, and some of you can tell the story about the report just as well as I can. It may be news to you, however, that Uncle Sam is doing two things for the honey industry that are absolutely unique.

In the first place, this honey market news service is the most complete report on any one commodity which is published by the United States Government. No other report goes into as much detail regarding both producing section news and prices from consuming points. You will recall that our reports from the shipping sections are sub-divided into many areas, in which is given not only selling prices but comments on the condition of bees and honey plants.

Those of you who do not receive this report and who want it are welcome to it, and it will be sent to you without charge if you will give me your name and address at the close of this morning's session.

We are hoping during the coming year to greatly expand the usefulness of the market news bulletin to package bee and queen raisers, and we can do so with your cooperation. I have asked a number of you to report on the package bee and queen situation for your home state. The report blanks which you will receive are the same as those which we send to beekeepers who report the selling prices of honey. Just ignore the lines calling for honey prices, however, and give at the bottom of the page, or on the back of the sheet, comments concerning climatic or other factors that may affect the movement of package bees and queens.

The other unique feature which the Department of Agriculture has provided for beekeepers deals with production figures for honey. It has been well known that the Census figures on honey production were incomplete because of their failure to take into account a great many colonies owned by commercial beekeepers and kept on rented land on the farms of other beekeepers, and because they also omitted many colonies of bees kept by beekeepers in cities and large towns that were not included in the Census reports. With the assistance of well-informed men in the States, including Mr. Wilder of Georgia, Mr. Reese of Ohio, Mr. Foster of Florida, and others who are here at this meeting, we have been enabled to prepare a tabulation giving production estimates and the number of colonies of bees, that is recognized as being the most accurate report of its kind ever issued. I have copies of the tabulation put out earlier this month and will be glad to give them to any one who wants one and will see me at the close of this meeting.

Novel Christmas Idea to Increase Sales

Honey for Christmas, 1934, in Christmas packages, as a merchandising idea resulted in large sales for the Huber Baking Company of Wilmington, Delaware, whose use of honey in bread was described last year in American Bee Journal. Mr. Huber put three jars of honey in a gold box, tied it with a red ribbon, and offered it to large employers as a suitable Christmas gift for their workers. A number of employers gave the Christmas box to their helpers on the pay day before Christmas, and several department stores, including Gimbel's in Philadelphia, displayed it as a suggested Christmas gift. The retail price was 75 cents, but, because of the attractiveness of the package, it appeared to be worth much more.

S. F. Haxton,
Pennsylvania.

Mr. Smith's bees and bee sheds. He and the ladies admire two handfuls. Gentle bees like this ought to set pollen for good eating apples.

No Bees, No Apples, No Profits!

—*How to Correct Simple Mistakes*

By Towson E. Smith,
Virginia.

WHEN will the farmer and apple orchardist learn **how to stop killing bees?** Good business for the bee man must also be good business for the orchardist as well. I will guarantee to show you how it can and should be done. Every orchardist should be glad to cooperate with beekeepers, because it will mean a great money-making cooperative arrangement where the orchardist will under average conditions, make dollars while the bee men can expect to make only nickels. "Love Thy Neighbor As Thyself" is nowhere more beautifully illustrated in the realms of **nature** than in **protecting** the life of the honeybee, **God's** greatest engineer, and **man's** best friend on earth.

Few orchardists or farmers realize the supreme importance of the work left for the honeybee to do. And it does it free of charge, boards itself, and thinks nothing of risking its own life. Whenever the nectar begins to flow the bees will work overtime in the vineyards and orchards, strawberry patches and cloverfields, vegetables and flower gardens just as **God** intended that it should be done at the opportune time as is required by **Nature.**

The weather must be warm enough to make the nectar flow, and the bees must be close enough to the blossoms to guarantee them sufficient time to gather their load of honey. Each bee must be able to visit 5,000 to 6,000 different blossoms and return to his home before being interfered with by rain or chilling breezes.

Unfavorable weather conditions such as a freeze, is the chief reason given by orchardists for the failure of the trees to set fruit. As a matter of fact, there were no bees in the immediate vicinity, or no proper self-pollinizing varieties of blossoms for the bees to work on at the time the nectar was flowing. The nectar flows only when the visitation of the honeybee is most beneficial to the fertilization of the blossoms. When the bee is after the nectar is the only time fertilization takes place. The honeybee has on its body thousands of hairs finer than the softest fuzz and is designed by Nature to carry spores that will pollinize many thousands of unfertile blossoms, provided fertile or self-pollinizing blossoms have been visited previously in the flight to gather nectar.

This simple process, if at all favorable weather conditions exist, is worth more than $5.00 per colony to the orchardist, if the bee man places a medium strong colony of worker bees, with a vigorous young queen in hive, in apple orchard about two days before the blossoms burst forth into bloom. Poisonous sprays should not be applied until after the bees have practically ceased to work on blossoms.

Now for the cooperation of the orchardist or farmer who is benefited most of all. He must realize that if he wants to obtain the greatest profit from his fruit trees he must be considerate of the honeybee. If man places the deadly poisonous spray upon the blossoms before the bee has finished its work, less will be the fruit matured. Fruit simply will not mature unless the bee has properly completed its work. Bees are the only efficient agent **Nature** has designed for this work.

Though man has often had the wise, deceitful feeling that simply because he has planted a few apple trees, pruned, sprayed and cultivated them he is a wonderfully good business man. Remember, Mr. **Man,** that if you are to continue to prosper you must work with **Nature,** lest you fail sooner or later. To apply carelessly poisonous spray on flowers, growing on the ground between the trees, simply causes instant death of the most agonizing form to the greatest friend known to man. If you had mowed between the trees of the orchards one day in advance of the spraying crew, then you would have protected the life of the honeybee that, after it had set your crop of apples, was then gathering honey and pollen for its young brood. Honey must be gathered from the wild flowers in June if the bees are to have any food stored up for winter. If you, Mr. Orchardist, will only cooperate as indicated above there will be a star placed in your crown.

While it may be a well recognized fact among some close observing and experienced orchardists that one bumblebee may be able to do as much effective work as twenty honeybees, yet dependence can not be placed in there being sufficient bumblebees in the orchards at blossoming times, as the polecats delight in destroying their nests, which are near the top of the ground under some form of rubbish. The bumblebee is fast becoming extinct in some localities. They can not be tamed by man for his benefit. Therefore man is almost placed in a predicament where he is forced to protect the honeybee if he

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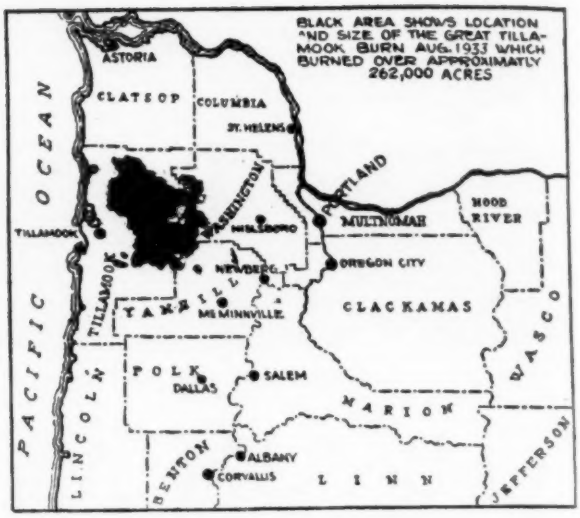
The Tillamook Burn

By W. L. Arant,
Oregon.

A fire that burned timber enough to build 600,000 five-room houses. Think what that means in a product already short enough! If fireweed follows this great burn, as it usually does, the beekeeper, at least, will do well to see if he can get close to it.



Area covered by the great burn, just east of Portland. In wonderful country.

THE GREAT FIRE in the Oregon Coast mountains in August, 1933, has occasioned many inquiries concerning the future possibilities of the region for fireweed beekeeping. This fire, it may be recalled, was one of the worst in the history of western forests. Started by a friction spark, fought by 1500 men for ten days, then breaking all bounds and sweeping forty miles in one day, it did not stop until it had covered 225 square miles and killed 11,000,000,000 feet of virgin timber.

The fire was followed by ideal weather for the flight of fireweed seed, and it was easy to imagine the entire area covered with a thick stand of fireweed plants, capable of supporting some 50,000 colonies of bees. This prospect led us to investigate. After making excursions into this burn from all sides we are forced to conclude that Nature has here given the beekeeper a hard nut to crack.

As for fireweed, much though not all of the burned country was well seeded. The only handicap on this point was the dry season of 1934 which caused the young plants to suffer for lack of moisture. Steep slopes, rocky and shallow soils, and places where the fire was so hot as to burn the humus from the soil are bare, but the moist canyons and stretches having good deep soil are covered with the young plants. Taking it altogether there will be much fireweed in the wake of the big fire. But the matter of reaching and utilizing his bee pasture presents serious obstacles.

The most formidable difficulty at present is the lack of any roads over which bees could be hauled. An occasional road has been opened to the edge of the burn, but with one exception they are so narrow, crooked, steep and rough that they are barely passable with a light car of short wheel base and high center. The only road that passed through the region of the fire was a pioneer stage road, almost unbelievably difficult for either horses or cars. This road is

Above, fishing party on the Wilson River, near its mouth. Much of the Wilson River lies within the burn.

Below, part of a fireweed apiary in November. This is at a low elevation with a good road. Much of the fireweed is not accessible.

closed since the fire and the resulting wind threw hundreds of large trees across it, as well as burning the bridges. The heavy rains of the following winter added their toll by causing slides of earth which took sections of the road away. Incidentally this region has the highest average annual rainfall of any point in the United States, according to the Federal weather bureau.

The general route of the foregoing (Wilson River) road has been surveyed for a state highway, and a few miles at the western end have been graded, but no funds are in sight for completing the road in the near future. The present grading, however, reaches to the burn, and will be used by logging trucks to haul out some of the dead timber. It connects with the Coast highway (U. S. No. 101) and will be a good road so far as it goes.

If roads were available it would still be a problem to find apiary sites so rough and steep are these mountains. One may judge of the topography from the fact that the short Tillamook railway crossing these mountains a few miles to the northward has thirteen tunnels in its construction. Such sites as may be suitable for a camp may be poor from the standpoint of fire protection. For this whole region is more inviting to fire than before the original inferno had killed the green trees and brush. Even the dead needles still cling to many of the branches, and these are highly inflammable.

Because of the threat of fire the entire area was closed during the dry season of 1934 by order of the state forester, and all persons were forbidden to enter it for fishing, camping, or for any purpose. An inquiry to the state forester regarding possible permits to beekeepers did not receive a very favorable response, but it is to be noted that 1934 was an exceptionally dry summer. The state game commission has also closed the region for hunting, owing to the great destruction of wild life by the fire. Strangely interesting, however, to a beekeeper are the evidences of numerous bears which seem not to have suffered much from the fire, judging by the many trails and tracks, and the visit we received one night while camping (after the closing ban had been lifted) on the rocky banks of Wilson river.

Timber owners are making limited preparations to rescue the most accessible of the dead timber, but they entertain serious doubts as to whether any considerable portion of it can be salvaged on a profitable basis within the few years that it will remain sound. That enough timber to build homes for a million people must stand untouched until worms and decay have made it worthless seems an economic waste hard to contemplate; but it helps to explain why a lot of fine fireweed may "bloom to blush unseen, and waste its sweetness on the desert air."

A Summary of Suggestions From Readers on What They Want

THE following is a brief digest of about a hundred and sixty letters received from readers in reply to our question "What do you want to read?" Many mentioned the same subjects. Practical subjects were in the majority. Here is the list.

Practical honey production—methods of getting more honey at less cost; new ideas and inventions that reduce operation costs; detailed apiary practice; methods of swarm control; comparative use of shallow and deep supers.

Extracting house plans and equipment for apiaries of different size.

Experience and methods of management of successful beekeepers.

Handling, hiving and management of package bees; use of packages in comparison with overwintering.

Queen rearing, both home and commercial; queen introduction; causes of queen failure; methods of testing queens; comparisons of annual requeening and requeening on failure; desirable qualities in both queens and bees.

Spring and fall feeding methods and equipment.

Methods of wintering; advantages and disadvantages of top entrances for winter.

Races of bees; comparisons; methods of management and results.

Honey packing methods and equipment; clarifying, whipping, bottling, storing.

Honey for health uses; clinical cases; diet hospitals; cosmetical uses.

Articles by the old masters, reviewing their problems and experiences.

Management for honey production in the South.

Methods for maximum honey production in less desirable locations.

How to establish and manage outapiaries.

Producing and marketing bulk comb honey.

How to prevent and stop robbing.

The Dadant System of beekeeping.

How to separate honey from overlapping flows; how to get honey from fruit bloom and other difficult sources.

Apiary and management records to show costs and profits; records to show hive development.

Good ways to render comb and wax.

Honey plants; where found; value and kind of honey; new introductions.

Judging colony condition by entrance behavior.

How to line bees.

Use of pollen substitutes.

Well illustrated articles on foreign beekeeping.

Reports of scientific work, here and abroad.

Profitable sidelines to go with beekeeping.

Short, spicy, current news from different sections, including Canada, and reports of meetings in full.

How many bees can one man care for?

Department for postcard editorials from readers and a forum for letters.

More debates and contests.

Step by step page for beginners about timely practice, with a monthly calendar.

It would be impossible here to give in full all the letters received. We have taken a number of the best ones and only quote from them in part.

J. E. Eckert, Apiculturist at the University of California, says: "I would like to see a series of articles dealing with the history of American beekeeping to include biographical sketches of the most important figures. I enjoyed very much the biographical sketches by Kent Pellett." We are happy to say that Kent is on the job again and his first biographical sketch, in the interrupted series began in 1928, starts with the life of Captain Hetherington in this issue Our Field Editor, Frank C. Pellett, during the past year has also prepared considerable historical material. In this issue also the first article on migratory beekeeping starts; just what Prof. Eckert hopes to see. Many of our readers have expressed themselves in favor of having material of this nature also and we expect a good hearing.

D. Roberts, Wootton, Isle of Wight,

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Scotch the Snake

By Dr. Mart R. Steffen,
Wisconsin.

According to Dr. Steffen, honey for market must be sterilized under compulsion as a national regulation before brood diseases will be eradicated. To him, immunity is possible but not permanent. There is a thought in this all right. Read what he has to say, then across the page read the Alfonsus article on disease resistance.

DURING THE PAST few months the journals have brought out a few articles on foulbrood which carried some rather sour notes, expressions bordering on cries of despair, because after years of shaking, soaking combs, burning hives and bees, and a few other slip-shod attempts at eradication the disease refuses to be eradicated.

Well, maybe beekeepers are at last coming to the point where they will admit that the **eradication** of American foulbrood is not a beekeeping problem at all, but a problem for trained scientists who know how to make germs behave. Mind, I say the **eradication** of the disease. The prevention of it, consisting of manipulation of colonies and equipment in such a way as to prevent its introduction into healthy colonies, is to a certain extent a beekeeping problem; but the eradication of the disease is decidedly not a beekeeping problem.

In July, 1930, this journal published an article by the present writer which I wish could be published again today and read by every beekeeper, because in that article I made it clear that not until this problem is handled by trained scientists in a scientific way will it be solved. I also showed why this is so. Now after four years of watching your floundering about and shadow boxing with this enemy I am coming to you again, hoping that this time you will be in a more receptive mood and maybe profit a little by what I want to tell you.

I am going to make two very strong statements to begin with. 1. Foulbrood will never be eradicated until the beekeepers make up their minds that they want it eradicated. So far they have not done so, but have been satisfied with control measures uncertain at best. 2. No campaign of eradication will succeed that does not include the sterilization of all honey marketed.

In these two statements I have given you the "works" on foulbrood eradication and on whether you as beekeepers believe it or not depends the continuation of the disease or its eradication. In other words you will be "fussing around" with foulbrood until you make up your minds that you will do whatever is necessary to eradicate it, even if this means the sterilization of every drop of honey taken from the bees. And it means exactly that.

It is not always easy to make clear to laymen what is perfectly obvious to a mind strained along definite paths of scientific endeavor, but as I am a bee man as well as a so-called man of science I believe I can make you see what I see as I see it.

Take this case. If I, keeping bees in Wisconsin, clean up foulbrood in my bees what good will it do? The first dearth of nectar will probably nullify my entire efforts if my bees go smelling around the town dump or some back yard and drag home the dregs from a discarded pail of diseased California or New York or any-other-state honey handled by a Wisconsin grocer or market. All my neighbor beekeepers might have disease-free yards; yes, even the whole state of Wisconsin might be disease-free, but they could never remain disease-free any more than could any other state or locality as long as diseased honey goes to market.

You can easily read between the above lines what this means, and this is that any eradication campaign to succeed against foulbrood must cover the nation from coast to coast and from border to border and must be backed up by an embargo on unsterilized foreign honey. Or, if not national in scope, such states as do go in for it must bar all unsterilized honey from outside those states.

Possibly this tastes like a bitter pill to you; but mark my words, unless you take it there is no hope for you. The infection is in the honey and the honey is the food of the bee and the bee larva.

I know that some of you are now thinking what about bee trees. That end of the problem will not offer very serious complications; in fact, it will correct itself once the hived bees are healthy.

I also know that many of you are hoping for scientists to work out some magic formula which will clean up foulbrood. Such hopes are hopeless because scientists do not work that way; they are cold bloodedly practical about such things, their motto being "find the cause and remove it in the most practical way." In the case of foulbrood they will tell you "it is an 'open and shut' case; the germs are in the honey; the honey is the food of the bee; by feeding the honey to their larvae the latter become infected; sterilize all honey and foulbrood must disappear. If your bees already have the disease shake them onto clean combs or foundation, make sure that they get no more infected honey and your troubles will be over."

In the article published four years ago I made it clear that the control and eradication of disease in bees must differ from similar efforts in animals because the flight of the bee is not within our control. We control the movements of our cattle and swine and other domestic animals to suit their requirements from a health standpoint, but we must allow our bees complete freedom of flight if we would profit by their ownership. From this it follows that any effort made towards the eradication of a disease like foulbrood must be aimed at the complete removal of the cause. All efforts falling short of this aim can prove only palliative and will never result in permanent improvement. Such efforts as shaking, comb sterilization, burning of equipment, or any other, can only do good temporarily and in limited territory if honey from infected colonies goes to market unsterilized. The present status of the foulbrood situation after years of shaking and burning proves this to be a fact and not a mere statement; and the frequent articles and reports of disappointment appearing in the journals of late will bear me out in this.

In writing this I take it that we want a **practical** way to **clean up** foulbrood. I am well aware that there is a possibility—I say a **possibility**—of **controlling** foulbrood within a limited area. I am even quite sure that I could feed colonies enough emulsion of attenuated or

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Disease Resistance

By Erwin C. Alfonsus,
Wisconsin.

Alfonsus is with Prof. Wilson at the University of Wisconsin. He is the son of Alois Alfonsus, formerly in charge of beekeeping for the Austrian government and later well known in this country for his writing about beekeeping problems. He was with Father Jager in Minnesota. We consider Alfonsus one of our best informed bee men of the younger generation.

IN RECENT TIMES disease resistance has become a popular topic of discussion. Some people firmly believe that resistant strains exist or that they can be developed by selective breeding, while others refuse to accept such possibilities. However, resistance must not be confused with immunity. Plant breeders have produced cultural plants with a high resistance to common plant diseases. Plants as well as animals are living organisms. As veterinarians can protect and treat live stock by vaccination which produces artificial immunity, similar experiments with animals have been done only to a very limited extent. The "anti" bodies which prevent infection or help animals overcome contagious diseases, are produced in the blood of the animal itself after a slight infection brought on by inoculation. Sometimes the "anti" bodies are prepared in the blood of other animals and after extraction injected in the sick animals.

Nothing of this kind is known about insects. In a recent work on insect diseases A. Paillot, a French entomologist, mentions immunity of insects to certain diseases. However, bacillus larvae, for instance, reveals only the generally known life history, disease symptoms, etc. Although the work of American bacteriologists and German pathologists has made clear many problems on transmission, individual infection and the course of the disease, nothing has been yielded regarding the possibility of immunity.

At various times many beekeepers and apiary inspectors have observed that in badly diseased apiaries one or more colonies remain healthy and, in spite of careless handling and other conditions conducive to spreading the disease, do not contract it. It has also been reported that in yards where disease cases existed and were cleaned up every year, disease did not recur after introduction of a different race or hybridization. This was experienced by Charles Mraz as well as the writer. In 1929, Lower-Austrian bees were introduced in a diseased yard where the diseased colonies had been burned. The disease failed to reappear. In 1934, similar observations were made in another yard.

Direct information has been solicited from two Austrian authorities, Honorardozent Oswald Muck, in charge of bee disease work at Vienna, and Guido Sklenar, publisher of a bee magazine and foremost queen breeder of the Lower-Austrian bee.

Their replies contained several important facts concerning disease resistance. Prof. Muck had experimented on resistance of bees to disease at the Agricultural College in Vienna from 1909 until 1931. At the same institution, Prof. Doctor Wilfibald Winkler occasionally pursued similar lines of investigation. Muck also experimented on disease-resistance of bees at the Veterinary College from 1912-1931, and the detailed results of these experiments will be published in the near future. The important points contained in Prof. Muck's letter are cited here.

Professor Muck writes that he found a decided variation in the susceptibility of various bee races to bacillus larvae infection. He ranges races as follows, from the highest to the lowest susceptibility:

"1. Italian bees.
2. Swiss bees (black).
3. Black or German bees.
4. Caucasian bees.
5. Carniolan or Carinthian bees.
6. Pure strains of Lower-Austrian bees. The former frequently mentioned leather brown Solta bees (from the Island Solta in the Adriatic Sea) are about as susceptible as Caucasian bees."

Experiments performed by Professor Muck with Lower-Austrian bees are listed here and present exact translations from his letter:

"1. Insertion of a piece of old or young American foulbrood comb (about 1 dm-2); Results: Mostly positive within eight days, occasionally a complete cleaning of the combpiece by the bees and rearing of a **healthy** generation, the next generation diseased. The addition of entire American foulbrood comb always yields positive results.

"2. Infection trials* with a suspension of bacillus larvae spores in syrup or honey yields mostly doubtful results. Several times, the feeding had to be repeated four or five times. Feed accepted but dropped outside of hive.

"3. Transfer of a healthy colony in a diseased hive which was superficially cleaned but not disinfected, was again repeated this year with the same **negative** results.

"4. Transmission of American foulbrood by sporadic **drifters** from strongly diseased colonies produced **negative** results.

"5. Within twenty-five years at fifty occasions diseased colonies were shaken on brood foundation but always remained **healthy**.

"6. For twenty-five years one to three diseased colonies were kept in close neighborhood to healthy colonies but not a single colony in the apiary became infected." Professor Muck further states that American foulbrood occurs to a very slight degree in Austria; also that European foulbrood occurs very rarely except in the provinces of Vorarlberg and Tyrol. (Distribution area of black bees.) In regard to the extensive occurrence of American foulbrood in the United States he doubts that the susceptibility of Italian bees to the disease is alone responsible and adds that the trend from individual colony management may be partly to blame. The large apiarists now practice bee industry, rather than beekeeping. If the brood nest is inspected conscientiously and with understanding at the time of spring and fall revision, the control of American foulbrood appears to be simple in comparison with Nosema and Isle of Wight disease.

Guido Sklenar's reply came about the same time and in regard to disease he states: "I am ashamed to state that although they call me an experienced beekeeper I lack experience with American foulbrood. I have never come to know it, neither

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*American workers have found it very difficult to infest a colony in this manner.

Lives of Famous Beekeepers

Capt. J. E. Hetherington, 1840-1903.

His name is seldom seen anywhere in connection with beekeeping, but for all that he is one of the most advanced beekeepers and one of the largest producers of honey with the least fuss of any one we know.—T. W. Cowan in British Bee Journal, 1889.

By Kent L. Pellett,
Iowa.

NINE YOUNG MEN left Cherry Valley, New York, in 1861 to fight for the Union in the Army of the Potomac. All saw heavy fighting. Four were killed. Four went home disabled before the war was aged two years.

One alone remained, a tall lad of twenty-three, named Hetherington. Though shot to pieces and eaten by disease, he kept on for God and country.

The Widow Hetherington raised her three sons to be gentlemen in the old sense of the word, and in the best traditions of her family, the Connecticut Judds, and of her English husband. They went to Sunday school and abstained from chewing, smoking, drinking and swearing.

John was the oldest. He left his bee yard and he prepared for fighting in the thorough Hetherington manner, shooting at targets in the summer of '61 while his mother made his underwear, heavy to withstand the drafts of the camps.

On October 12 he entered as a private in Company D, 1st Regiment, U. S. Sharpshooters, Col. Berdan commanding. In this most desperate and dangerous branch of the army, where the fighting was done hand to hand, the Hetherington boy went through all the chief battles of the army of the Potomac.

He found military tactics and command to his abilities, and by the time Meade whipped Lee at Gettysburg he was Lieut. J. E. Hetherington. His captain fell in that famous battle and at the instance of Colonel Berdan he became Captain Hetherington, was cited for bravery and meritorious conduct. A lad of 23, he could give later a graphic account of the maneuverings of the two armies. He was born to command and the battlefield brought him prematurely to grips with destiny.

The Captain was under fire 114 days, twenty-four days longer than the service asked of any Union sharpshooter. He was wounded in the shoulder by a gunshot in the second battle of Bull Run. He was shot in the head at Spottsylvania and reduced to a shadow of his robust self by chronic diarrhea. At Petersburg, Virginia, a bullet shattered his hand and his sword and was deflected from entering his heart only by the weapon.

The army surgeon said: "At the time he was so weak and debilitated that he was a better subject for the hospital than the battlefield." But he returned to the battlefield, and his men kept his broken sword for him as a relic.

Three months later they sent him home more dead than alive. But he gathered strength to fight the disease which had wasted him. He fought it back and lived almost to old age. It dogged his steps, however, an inevitable ghost, and defeated him in his last battle.

The Captain would have returned to the uniform at West Point, and followed an army career, health permitting. He would have been distinguished as General Hetherington. But this was denied him.

After two years he got on his feet and went back to his apiary. Thereafter he was content with being general of the bee yard, with having command of larger apiaries and more far flung beekeeping operations than anybody heretofore had dreamed. For twenty years he kept 3,000 colonies of bees. He managed them as a meticulous and straight-laced general would his battalions. The twenty-two bee yards, the 3,000 colonies were in better order than the dozen-colony farms of his neighbors. "His hives, sections, cases, were models of perfection and neatness," we are told. "His packing cases were of the whitest basswood he could find in the forest, papered inside."

He drove himself and his men in the bee yard like the soldier he had been, his work extending for weeks at a time from before dawn until after dark. He made all his own supplies, from his hives to his honey extractors and even the three dozen wheelbarrows used in his outyards. Hardly the schedule for an invalid.

On a visit to Virginia he decided to move a thousand of his colonies there from Cherry Valley. The fall honeyflow began in two weeks. He wired home for lumber. He put twenty-nine men at work, built and painted the hives, transferred the bees and combs after bringing them in from outapiaries. He gave the bees a few days to unite the combs, then hauled them over the thousand mile journey, all in time for the harvest.

When the Captain died, E. R. Root

said: "Hetherington probably handled a larger number of colonies for a longer time than any other men who ever lived, or possibly ever may live."

Root was wrong. Others have surpassed the Captain. But he began without benefit of movable combs; without bee smokers or honey extractors; without comb foundation; without bee magazines or books; with scarcely anything needed now in the honey business. He took all these things in his stride and adapted them to the production of honey. But they came after he was on his way, not before.

Nearly six years ago I wrote about Moses Quinby. The life of Hetherington could very well have been written into the same story. If Quinby was the father of practical beekeeping, Hetheringon was its oldest son.

Hetherington said of Quinby: "Adding largely to the knowledge of his predecessors, he combined the whole into a system of practical management."

Quinby said of Hetherington, whom he taught: "He is the best exponent of modern bee culture, the man most able to prove that beekeeping can be made a success."

Young John Hetherington, at the age of 12, saved five dollars and bought his first colony of bees, which he took home in a sheet slung over a pole. He then went to his open-hearted Quaker friend, Quinby, to learn what he could about bees. "He so beautifully unveiled the wonderful mysteries of the natural history and practical management of the honey-bee, that I left him that day, impressed as I had never been before," said John.

He went often to see Quinby after that, and adopted his hives, which were movable frames, but not yet with the bee spaces like the Langstroth hives. But he was not content with the teachings of one master, trying rather everything that came along. Later in an old church he had a museum of implements which he had tried and found wanting. Think of any old tool you may in the bee line, and the chances are the Captain tried it at some time, and then put it away in his museum. Box-hives, all kinds of them, honey-boxes, feeders, extractors, floor boards, metal hive runners—they all were there.

From his boyhood everything he did was on a large scale. When he invented a double-walled hive with an air-space between the walls he made 600 of them. But his idea worked in reverse. The hives got full of moisture, and the double walls prevented the sun from drying them out. Then he changed to straw hives and made 1,400. They cost him two dollars each.

Hetherington had just turned twenty-one when he joined the army, yet every writer who has touched on his life records that he was even then the world's largest beekeeper. He was marketing honey by the ton and his colonies were averaging sixty pounds. After the war he resumed beekeeping on a larger scale.

He adopted the new ideas as they came along, and added his own improvements. The honey extractor was his almost as soon as it crossed the ocean. So was comb foundation. He experimented with it for years. He tried paper, cloth and wood for reinforcement. The bees ate them all away. So he was the first to run fine wires into the wax sheets, a method that has been generally adopted since.

The comb honey made from the Captain's thin flat-bottomed foundation was among the finest in the world. T. W. Cowan, editor of the British Bee Journal, said that the center of his combs was of finer texture than those made wholly by the bees.

Though not much in print or at beekeepers' conventions, Hetherington yet found time to help organize the Northeastern Beekeepers' Association, and the National Beekeepers' Association, and was elected president of both.

The Captain was heedless as long as possible to the beckonings of his grim companion, disease, while he lived the life of a gentlemen, as had all the Hetheringtons and the Judds. He liked company, enjoyed fine talk, and his tales always led back to the battlefields.

He was the favorite entertainer at G. A. R. campfires, a pillar of his church, his lodge and his Sunday school, where he and his family attended. He was a member of the local temperance society, the Good Templar order.

Temperance, working at a dignified task in a dignified way, the shunning of dirt—these are the heritage of the English gentleman which too many of us have forgotten.

Captain Hetherington went to the Centennial Exposition at Philadelphia in 1876, and took with him 3,500 pounds of comb honey. He built the honey, together with ornamental packages of wax, into a vast turreted castle. At the top he flew the American flag.

The display won the highest award. "For great skill in apiarian art, and taste in preparing its products for market, this exhibit is exceptionally complete in every particular," said the diploma.

Great crowds of people stopped and looked and admired. But how many understood the meaning, in blood and pride, of either the flag or the great pile of honey?

OBITUARY

Death of Frank Coverdale

Frank Coverdale, pioneer grower of sweet clover and well known Iowa beekeeper, died at his home in Maquoketa on January 17, 1935. Mr. Coverdale was born in Clinton County, October 4, 1861, and spent his entire life in his native state of Iowa. On January 24, 1884, he was married to Susan Benton who preceded him in death March 6, 1930. They were the parents of nine children, two of whom died in infancy.

Mr. Coverdale was a prominent farmer in the Maquoketa vicinity for many years, operating about 400 acres of land. He was a successful cattle feeder and attracted wide attention to sweet clover when he shipped fat cattle to Chicago which had been fattened on that crop. When his cattle sold above corn fed cattle on the same day it did more to interest farmers in the growing of sweet clover than all the arguments of the hundreds of beekeepers had been able to do.

When Coverdale first sowed a field of sweet clover there was much indignation among his neighbors and they endeavored to have him prosecuted for spreading noxious weeds. Coverdale thus became the first farmer to use sweet clover as a field crop and to demonstrate its real value as a forage crop as well as a source of honey.

Although a large scale farmer, Coverdale carried on honey production extensively and operated several hundred colonies. It was probably his interest in bees that led him to try the experiment of using sweet clover as a field and pasture crop. His success was such as to gradually lead to the adoption of the crop over

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A Summary of Suggestions from Readers

(Continued from page 171)

says: "Living in Europe, in another country from yours, the great pleasure I take in reading the Journal is naturally mixed with an interest of a different kind from that felt by American readers. It takes me into the life of a different country from my own and though bees are much the same the world over, it takes me to regions where beekeeping practices are very different from what they are in England. Many of your appliances and methods are gradually coming into use here owing to their being more practical and labor saving. Our amateurs are much more in evidence than our experienced commercial honey producers. Anything to do with practical honey production interests me. Articles describing American life and the scenery of your country make very pleasant reading." I think that is just the way American beekeepers feel about stories from other lands, too. Many of the replies indicated an interest in this kind of material and whenever we get good reports from other countries, they will surely be used.

F. R. Smythe, Saguache, Colorado, writes: "I feel more articles on scientific apiculture would be appreciated. The field that the Journal covers is so wide that articles on practical beekeeping are not as valuable because beekeeping regions vary so much. One has to work out methods applicable to his own locality. Fundamental principles of beekeeping, however, are the same the world over." This is an unusual point of view from a practical beekeeper and we appreciate it. We have often felt that there is too much of the scientific and not enough of the practical in our pages and that some of the heavier and longer scientific articles were not relished by most readers. It is refreshing to find a honey producer interested in this way.

Chester Phillips, of Fargo, North Dakota, writes: "You have articles from time to time about American foulbrood. I have it in my own yards though only two or three per cent of my colonies turn up infected every year. I now run mostly for comb honey and think I am getting headway on the disease. Fire is my way of destroying all infection. I think you say too much about foulbrood. I appreciate an article by an authority but I don't think articles by novices like myself cover any real ground on this subject." Perhaps you are right, Mr. Phillips. We have tried to give all sides of this question. We really do hesitate to use much of the material received from those not well acquainted with disease and its treatment and probably the fire practice is still the best one.

Ira B. Eisenbise, of Lanark, Illinois, remarks: "If I can suggest anything at all to be added to what we now enjoy, it would be a department for letters and comments from the everyday beekeeper. Letters which you will correct, punctuate and fix so that comments from various places will appear from month to month. Do not spoil interesting letters by deleting. I believe if all the old and young fogies could be started, it would prove quite interesting. Some readers can tell of kinks and shortcuts, little methods of practical value." Well, this is a good suggestion. What do some of the rest of you think about it? You will notice that this very idea is incorporated in the list above.

Geo. Williams, of Reidsville, North Carolina, perhaps describes the reading habits of many when he says: "Here is what happens when I get the Journal. First, I look it through, read the headlines, glance over the ads, then read the Editorials, Questions and Answers, All Around the Bee Yard, Postscript, Crop and Market Report and then, at another time, I return to the longer articles, Meetings and Events, Little Blue Kitchen."

Walter H. Hull, Virginia, gets right down to the practical: "Looking back over a period of years, the stuff that I got the biggest kick out of was definite directions on how to succeed and make money in various phases of the business. Not merely general information but definite dollars and cents directions and dollars and cents profits. You remember Doolittle's book 'A Year's Work in the Outapiary' which appeared serially in Gleanings. That's the kind of stuff I mean. How to get it is another story." You are right.. How to get it is another story. We will have to go out after it.

Ralph W. Barnes, of Morrill, Nebraska, senses some of our difficulty in getting the best material when he says: "I like articles by leading beekeepers. How they extract, how they manage their bees. If you can get these men who never have anything to say to tell how they do it, I think it would be worthwhile. I know men who have built up comfortable fortunes in the bee business that the beekeeping world has never heard of." How can we get these men to write? (If enough of them read this, they may jar loose.)

D. W. Fatic, Brooksville, Florida, perhaps can tell some of these successful fellows how to go about writing. He says: "I am always ready to give my attention to stories from beekeepers who have made their work pay, who have built up apiaries of say 100 or 200 colonies as a sideline to farming or professional work, and have made it pay. In other words, I like success stories of small scale beekeepers. Articles telling of the kind and amount of bee pasture, the arrangement of hives in the yard, pictures of extracting outfits, of homes, etc., make exceedingly interesting articles. As a second choice I greedily read everything in regard to honey plants. Please give us well illustrated articles on fireweed, sweet clover, white clover, buckwheat, sourwood, locust or what have you?" Mr. Pellett starts that this month, Mr. Fatic, and we may continue it if everyone seems to like it. Almost a regular department although we don't want to call it that because it may not appear every month.

No Bees, No Apples

(Continued from page 169)

wants to gain the greatest results in producing fruits, berries and apples.

Last spring I rented some bees to the men who foreclosed on a valuable apple orchard of mine, because of the 1930 drouth. The new owners would not mow off the blossoming weeds in the orchard ahead of the two June sprays. I asked them in a very polite way to please do so before applying the sprays in June, though they had been benefited by bees to the extent of a set of fruit approximating 6,000 barrels.

Consequently, my 102 colonies were reduced to 61. My honey crop was cut short approximately $1,200. My 30 additional increase colonies were literally wiped out twice. My entire total loss was in excess of $1,500.

If the orchardist would mow off the vegetation and weeds in his apple and peach orchards one day in advance of the spraying crews in the month of June, I am sure the experimental stations, in apple producing states, will be able to show them, that they have added to the water supply an increase equal to anywhere from $20 to $30 per acre in actual cash value to the trees. The size of the fruit will be increased especially if there happens to be a drouth followed by an average rainfall in June. Mowing off all of the undesirable growth in June and leaving it on the ground for a **mulch,** is worth anywhere from fifty cents to one dollar per tree on the average, especially when followed by a drouth in July and August.

The bees necessary for 100 acres of average size matured bearing apple trees would probably be 100 nice medium-strong colonies. The cost of placing them there by the apiarist would be reasonable at $500. If a nice set of salable fruit were produced with the aid of the bees probably ten to fifteen thousand dollars' worth of high-class apples would be ready for market.

To back up what I have said regarding protection to the honeybee as essential to guaranteeing a set of fruit, simply write to the Entomolog-

ical Branch, Department of Agriculture, Ottawa, Canada, for bulletin on pollination by bees.

Germans Use Honey

Of all racial elements in a cosmopolitan city, Germans seem to be the largest users of honey. In sections of Philadelphia where Germans or those of German descent predominate, sales of extracted honey in retail stores are far larger than in other sections.

S. F. Haxton,
Pennsylvania.

Scotch the Snake

(Continued from page 172)

killed bacillus larvae to cure foulbrood right in the hive. But what good would it do any of us? Because foulbrood is a larval disease the feeding would have to be kept up permanently unless all honey used in the hive for larval food were forever after kept free from infection. This is a point which many of you seem to lose sight of when you dream about those magic formulas you hope some scientist will work out for the cure of this disease, namely, that the disease affects the larvae only; the mature bees have either escaped the infection or survived it in some way and will never again be in danger of succumbing from it, nor does their apparent immunity or accidental survival contain in it the slightest degree of hope for future bee generations because they are not progenitors. There is a bare theoretical exception to the last statement in favor of the drone; if by mere hypothetical chance one of us should be so fortunate as to have a virgin survive the infection of her royal jelly with bacillus larvae, and then be so fortunate as to have that immune virgin mate with an immune drone whose father was also immune the colony which that virgin would head as queen might be permanently resistant to foulbrood. But the immunity would not continue to swarms or increase from that colony unless the same set of fortunate and highly improbable mating circumstances occurred again.

Now, I hear some of you ask why can't we resort to controlled mating and bring about these mating circumstances, using virgins and drones immunized in the larval stage. Yes, I think this could be done; but it is not the solution to the foulbrood question for three very good reasons-

1. It is not practical. The last census of beekeepers that I recall gave the total number of eight hundred thousand (800,000). The total number of colonies I do not now recall. The figures were for the United States only. Many of these never read a journal and do not take a very live interest in beekeeping, having social economy of the hive. The great number of the total alone—800,000 only a very hazy idea of the life and —in itself clinches the point of impracticality.

2. Controlled mating is a delicate procedure, an operation carried out only with partial success even by specialists in so far as the worth of the queen as the head of a colony is concerned.

3. Parthenogenesis. It would occur frequently that a virgin mated under control would get a second mating naturally and unless the natural drone came from a second generation of immunes the increase from resulting colonies would probably not be immune. I hope none of you have forgotten the principle of parthenogenesis, which is the biological fact that is easy to recall if you remember that a drone has no father but only a grandfather.

But we do not want anything bordering so closely on the hypothetical; nor is it further control we want. We have been **controlling** the disease for a generation or two now and it is still with us. What is needed now is a practical way to clean it out, eradicate it. I have tried to show you that way. I tried to show it to you four years ago.

Here it may be well to consider that with this, as with every other endeavor of man to correct great evils, a few will have to suffer for a time. It will be necessary, for instance, to stop the production of comb and chunk honey in yards now infected. It will be necessary to spend much time and very careful thought in the drafting of legislative acts compelling sterilization of all liquid honey and the producing of other than liquid honey in disease-free yards only. The required human machinery, both state and national, for the enforcement of such legislation must be set up. Importations of foreign honey must be governed likewise. The hardest part of the whole job will come in the beginning, in getting started. How quickly the disease will be cleaned up so as to become a rarity will depend upon the cooperation of the beekeepers.

Sure, you are facing a big job. But if you are ever going to get rid of this pest it will be done this way. States now having good control machinery in operation need only add honey sterilization, control of comb and chunk honey production, and control of the marketing of outside honey within their boundaries. Just as soon as a reasonable number of states do this others will be finding the market for unsterilized honey getting narrow and they will be forced into line. The enforcement of the inter-state end of the campaign can then be made a federal activity. Should a number of states hold out against cooperation too stubbornly a little of the right kind of advertising will bring them into line.

In the handling of foulbrood beekeepers have in the past been on a par with those far-easterners who worship the cobra, who only bury those it strikes dead but never raise a hand against the snake. Only, beekeepers are more culpable because they do not act in ignorance; they know the infection is in the honey; they know foulbrood is taking most of the fun and much of the profit out of beekeeping, they know that they are causing the spread of it whenever they market or traffic in infected honey. But they continue to flood the markets with it. Now you know the reason for the title of this paper.

I end as I began: Foulbrood will not be eradicated until you make up your minds to do it, and to do whatever is necessary to do it. It can, and will be eradicated when you scotch the snake.

Disease Resistance

(Continued from page 173)

in my own apiary nor any other. Two times I received diseased combs from the province Styria (distribution area of Carniolan bees) for diagnosis. In our neighborhood American foulbrood is entirely unknown, although we have plenty of migratory beekeepers.

"The resistance of my strain 47 against various bee diseases has been repeatedly emphasized in various reports. My strain is found already in every country of the world and some of them are blessed with various types of bee diseases. The queen breeders here are hardly able to supply the demand of our own country."

All this infomation may appear surprising to those familiar with conditions in Austria or Lower-Austria. Factors are present there which we do not know and which would largely promote the spread of the disease. That American foulbrood is practically unknown there or does not spread must have some relation to the quality of their bees. Due to the relatively high humidity of this Alpine country, American foulbrood scales seldom dry down as they do in continental climates. They retain their gluey consistency for a long time and the bees in their efforts to remove them, increase the possibility of a spread.

The colonies are generally stacked closely together in bee houses. Often, less than six inches of space exists from one entrance to the other, resulting in much drifting. The people are very economical and old hives or skeps stored in sheds or attics are very frequently populated in order to utilize them.

Migration so that the bees may take advantage of buckwheat, sain-

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foin, goldenrod, alpine flora, coniferous forest, or heather flow, is practiced by the majority of beekeepers. They migrate by rail, truck or horse-drawn vehicles, and occasionally the migration extends into neighboring provinces.

Honey extractors are often owned cooperatively and are transported from apiary to apiary. The extracting is often performed out-of-doors, due to the lack of honey houses, and never fails to attract many bees.

In order to promote the dispersion of good stock a peculiar way of sending breeding material is practiced. Entire combs or pieces of combs, containing eggs of stock showing superior qualities, are sent by mail. The beekeeper receiving such a shipment inserts the comb in one of his colonies; when the eggs hatch, the young larvae may be used for grafting.

The greater share of the bees are shipped on stationary combs from Carniola and Carinthia, and are transferred into mobile frame hives.

According to law, American foulbrood must be reported to the district's veterinarian, but quarantines and official inspection work are not practiced as intensively as they are in the United States. In spite of this, American foulbrood is not making headway there, due, possibly, to the resistance of the bees.

The other qualities of the Lower-Austrians, especially the famous strain 47, are very favorable. They closely resemble the Carniolan bee, except for slight variations in the wing venation and differences in behavior. They have all the desirable traits of the Carniolan bee, but do not swarm more excessively than Italian bees.

In June, 1924, the Department of Economic Entomology at the University of Wisconsin secured a few queens of strain 47. This was made possible by repeated inquiries to several breeders. As a rule the queen breeders of Lower-Austria have all the orders they can fill booked at Christmas time besides requiring advance payment.

By "Evening mating" the number of Lower-Austrian queens has been increased to the extent that half the yard is now populated with Lower-Austrian bees and the other half with the original Italian stock. It was intended to undertake a comparative study of the traits of the two races. The information stated concerning the disease resistance of Lower-Austrian bees resulted in an additional field of investigation. It must not be forgotten that the experiences and experimental results of the Austrian beekeepers are obtained under entirely different climatical conditions. It is not our desire to advise anyone to secure such stock in an effort to get relief from American foulbrood. Years of study and experimental investigation will be required before evidence can be produced to show whether the Lower-Austrian bees are or are not resistant to American foulbrood.

These bees will be submitted to severe tests, and if they live up to the reputation they enjoy in their native land, this strain of bees will be made accessible to beekeepers desiring them. As Professor Muck's experiments have shown, these bees are far from being immune and show resistance only to a limited degree. The possibilities of lowering the spread of American foulbrood is all that can be expected. If their apparent resistance can be increased by line breeding this can be accomplished.

The bees have not been selected for disease resistance in their native land, as American foulbrood is no problem to the Austrian beekeeper. There, the primary breeding aims are—productiveness, non-swarming, and hardiness. Color breeding has not been taken into consideration nor has breeding for gentleness. The latter characteristic is present in this race and equals the gentleness of Caucasian bees. The origin, qualities, and the breeding of the strain 47 of the Lower-Austrian bee has been published by Guido Sklenar a book entitled, "Stamm 47." Later, it is our intention to publish an English abstract of this excellent little book which offers many new methods for beekeepers, as well as queen breeders.

Death of Frank Coverdale

(Continued from page 175)

a wide area until hundreds of thousands of acres of sweet clover are now grown on Mid-West farms. He began beekeeping as a boy of 14 and maintained his interest to the end of his life. His son William has taken over the bees since his father's death and will continue their operation.

Mr. Coverdale was an early member of the Iowa Beekeepers' Association and there are papers from his pen regarding the growing of sweet clover in the early reports of that organization. There are also numerous articles on this and other subjects in the back volumes of the bee magazines. Although he was not a voluminous writer, what he did write was so manifestly the result of practical experience that it inspired confidence.

The beekeeping industry owes a debt to Frank Coverdale such as it owes to few men. Although beekeepers had talked of the merits of sweet clover for years and had sowed it in waste places over a wide area, the public remained suspicious and unconvinced. It remained for Coverdale to grow it as a farm crop, to use it for hay and pasture and demonstrate to a skeptical world that it was a valuable plant. For a time he re-

ceived nothing but censure but later he was hailed as a pioneer and a leader worthy of honor in a new field.

Frank Coverdale has gone on but he still lives in the work of the farm and the apiary as few men are privileged to do. Because of his influence sweet clover has become a crop of major importance and because of the spread of sweet clover honey production has developed into a specialty which enable beekeepers to measure their crops by carloads instead of by pounds. Let us keep his memory green.

J. N. Powell Dies

J. N. Powell, Como, Missouri, recently died, his death being announced to us by his son, C. E. Powell of Newellton, Louisiana, Powell's Bee Farms. For the past three years he has been living at Newellton, Louisiana; previously a resident of Como, Missouri; formerly of Wayne City, Illinois. He kept bees 53 years and was a subscriber to the American Bee Journal almost since its beginning. We hope to have a picture from Mr. Powell of his father.

Death of C. W. Cary, Norfolk

While we were at the Valdosta Conference we learned of the death of C. W. Cary, Manager of the A. I. Root Co., Norfolk, Va. He was the brother of E. T. Cary, Manager of the Root Branch, Syracuse, New York. Both fine men.

C. W. Cary will be greatly missed in the South. He has been one of Root's managers for years; formerly at Washington, D.C. He was always helpful, a great friend to the industry, and literally worked himself to death in his capacity as manager and because of his great interest in the many details of the industry in the region he served. We express our sympathy to the Root Company and to his family for his loss.

Death of X. Jay Kennedy

On Friday, January 4, X. Jay Kennedy, well known beekeeper of Lawrence, Kansas, passed from this life. Mr. Kennedy was engaged in the plumbing business and for the past twelve years has been County Commissioner from the Lawrence district. For a number of years he has engaged in beekeeping to a considerable extent and was the producer of considerable honey. Flowers also attracted his interest and the Kennedy garden in Lawrence was the center of interest for many friends. He had a large collection of iris and many native wild flowers in addition to a great variety of well known garden plants such as peonies, lilies, etc. Mr. Kennedy was sixty years of age and died suddenly from a heart attack.

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Are Your Friends Subscribers to America's Oldest Bee Journal?

FROM THE LITTLE BLUE KITCHEN

NO FOOLIN'! Here are several best-ever recipes by the Honey Way. Honey Lady says this without hesitation because she is giving her readers these ideas direct from Little Blue Kitchen labs.

A Blue Kitchen reader (Honey Lady suspects she may be a bride pathetically anxious to please the "best man in the world" with her cookery), asks for a honey-bread recipe. Hence the following is given as a really good one:

Heat 1 pint of sweet milk to boiling point, add
1 heaping teaspoonful of lard
1 tablespoonful of honey
½ cake yeast melted in cold water
1 teaspoonful salt

Mix thoroughly; then add flour until the mixture is stiff. Cover up in air-tight vessel and leave till morning. Mold into loaves and let it rise to about twice the original size, and put it in oven, baking about a quarter of an hour, being sure to have oven hot about one quarter of an hour beforehand.

— : —

Perhaps you are entertaining your club one of these April afternoons, and are anxious (as what hostess is not!) to give your guests something really delicious by way of refreshments. If so, try this sandwich filling. Honey Lady has used it various times and always had "loads" of compliments.

1 cake white cheese
3 pimentoes
1 shake or two of salt
2 hard-boiled eggs, chopped
1 tablespoonful chopped onion

Dressing

1 egg (well beaten)
1 tablespoon honey
3 tablespoonfuls vinegar
1 tablespoonful flour
½ cup cream or milk

Directions

If one has a food chopper it is wise to use it in preparing the filling using a moderate sized knife; if not, however, these ingredients can be nicely diced with a sharp kitchen knife. In preparing the dressing, beat the egg; mix together the honey, milk and egg; then the vinegar very slowly, and then the flour. Cook together in double boiler. Pour over the dry ingredients when cool. This filling can be kept for some time in a Mason jar in ice box.

As it is rather hard to get fresh domestic fruits yet, why not use bananas for a few times in attractive ways. For instance, here is a recipe for Banana Fritters which truly melt in the mouth.

Make a stiff batter of

1 cup of milk
2 cups flour
2 heaping teaspoonfuls baking powder
1 teaspoonful salt
1 teaspoonful honey
1 egg (white and yolk beaten separately)

Let stand for one hour before adding beaten white, and one large banana cut in thick slices.

Fry in deep smoking fat (vegetable or lard). Sprinkle with powdered sugar and serve hot.

— : —

Here is another citrus fruit recipe to help bridge over these April between-season days. It is for those of you, of course, who have electric refrigeration.

Pineapple Sherbet

Two cans shredded pineapple, juice and pulp; ¾ cup honey, 3 cups rich milk, mix all together. This will fill one tray of your refrigerator.

— : —

Old-Fashioned "Float"

Now that eggs are getting plentiful again, if there is some one in the family with a delicate stomach, you can make such a member happy by serving occasionally that dish our grandparents used to like so much, and which they called "float." Here's the how of that:

Boil 1 pint of milk in a double boiler. Meanwhile break three eggs into two bowls, and beat the yolks and whites separately. Add yolks, blended with two tablespoonfuls of honey to the milk as soon as it boils. Stir a few moments; add a teaspoonful of lemon extract. Then drop spoonfuls of the beaten egg whites on top.

Nothing very wonderful, but a dainty, bland dish for invalids.

— : —

Perhaps you would enjoy these muffins made the honey way?

Sift 2 cups flour with 3 teaspoonfuls baking powder, ½ teaspoonful of salt. Add 2 eggs, well beaten, 1 cup of milk, mixed with a tablespoonful of honey. Then add 4 tablespoonfuls melted butter or of lard, and make all into a stiff batter. Pour into buttered muffin tins till each is half full. Bake in moderate oven about 20 minutes.

These are "even better" when spread with butter and honey!

— : —

Bee Lines

The Bee Line to keeping recipe and cook books sanitarily clean (they so often get sticky and greasy from the cook's fingers) is to cover each with a light grade of table oilcloth. All the books on Blue Kitchen shelf have jackets of white and blue oilcloth. Whenever soiled they are wiped off with a cloth dipped in warm water, and are as clean as new!

— : —

A Bee Line to a happy hour for your city friend (if you are a farm dweller and a beekeeper's wife or daughter) would be to send her by quick air mail, perhaps, or take to her in your car (if not so far away) a great bouquet of lovely April violets and a pot or two of honey!

California College Studies Waxes

In a cooperative effort to study the various properties of beeswax, the College of Agriculture of California, at Davis, through Dr. C. S. Bisson, professor of chemistry, and Mr. G. H. Vansell, of the Federal Bureau of Entomology, has collected forty-two samples of beeswax from all representative sections of the Pacific Slope, the Hawaiian Islands and from some of the mid-western states. These samples, collected under the direction of Mr. Vansell, whose duty it was to see that they were free of other waxes and impurities, show a surprising variation in their physical characteristics. In color, the samples range from nearly white, through an entire gamut of yellows, to almost black. In the investigations conducted so far, Dr. Bisson has found marked chemical characteristics also in the various samples.

David G. Sanborn,
California.

That Question of Immunity

It would seem that if any bees are immune to American foulbrood, it would be those that do not acquire the disease when exposed, rather than those that become infected and apparently recover. Such recovery may be only apparent and later prove to be a menace. E. S. Miller,
Indiana.

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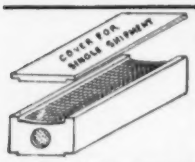

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THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

HOW TO MAKE MEAD

Can you give me a recipe for making mead or honey wine? CALIFORNIA.

Answer.—Mead or metheglin is made with different proportions of honey from a pound to three pounds to a gallon of water. The heaviest, three pounds of honey, never ferments entirely and remains partly sweet, so it is a little more dangerous than the other kind, as the alcohol is hidden by the sweetness.

A pound of honey will make a drink about as strong as ordinary cider vinegar. About two pounds of honey will make an acceptable intoxicant. Heat your honey, then mix it with cold water. Put in a small proportion of fruit juice, grape juice, apple juice, etc., to supply the cause for fermentation. Keep it warm, from 70 to 95 degrees. When it is sufficiently fermented keep it cool and close it, as it might get germs of vinegar fermentation. The weaker it is made, the greater the occasion for vinegar fermentation.

To preserve, keep it in a cool place and well sealed.

HOW TO MAKE A SHOOK SWARM

Will you please explain the Shook Swarmer method of swarm control to me? MICHIGAN.

Answer.—The Shook swarm method of swarm control is an attempt to create conditions in the hive like those of a natural swarm. It forces the swarm at the convenience of the beekeeper.

Making a Shook swarm is not advisable except with colonies which are making preparations to swarm naturally. When the colony shows a considerable number of queen cells started, it is a fair indication during the period when swarms are to be expected, that this colony is getting ready to swarm.

The operation is as follows:

An empty hive is placed on the old stand with frames with foundation and one empty comb. Most of the bees and the queen are then shaken in front of the new hive so the bees will run into it readily. Make sure that the queen goes in. Leave enough bees with the old hive to take care of the brood.

Leave one or two good mature queen cells. Make sure that the comb containing it is not shaken or disturbed. This is to provide a queen for the now queenless brood nest of the old colony. Put the supers if there were any on the new hive and set the old one away in a new place in the apiary for increase. If you do not wish to increase, destroy all the queen cells in the old brood nest and either set the old brood nest on top of the super with a queen excluder below the super or set the old brood nest beside the new one until the brood has emerged and then the bees may be taken in with the new colony. The latter method works better with comb honey.

MOVING A SHORT DISTANCE

I bought several hives of bees last spring and just dropped them about, as you might say. I intended to move them all together this winter, but the weather has been so mild the bees have been flying all winter. It is getting late and I wish to plow and the bees bother. I only want to move them about one hundred yards. Could I confine them and for how long? Might they suffer any for water, etc.? They are working every warm, sunny day. I did try to move one hive; but I think I lost quite a number of bees by it.

Also, I wish to put them three hives to the stand. I have some certain framing that is already built and are ideal for the purpose, but they are only about six feet long. Do you think a group of three hives will be too close? VIRGINIA.

Answer.—To transport bees to a new spot, especially when you want to move them only one hundred yards or so, it is advisable to treat them in such a way that they will feel as if they had swarmed.

For that purpose you must close them up and drum them for a while on a morning when it will be possible for them to remain shut up without suffering. It must be a cool morning, just warm enough for them to fly after you release them.

Close them up and smoke them, drum them and make them feel very uncomfortable. Then place the hives where you want them, then release them and place some obstruction such a slanting board in front of the entrance, so they will know that something is wrong in their location and will look back as soon as they take flight. After they have fully recognized the place, they will be more likely to come back to it.

Whether you place them in groups or singly, it will not matter, if they realize that their location is changed. It is a very easy matter, when they discover that their home is no longer where it used to be.

No hives must be left on the old spot, because they would be more likely to go back to them.

TRANSFERRING

I would like to know if you think that a queen will move down in a new hive if the old one is placed above it? I have bought a small farm and I have two colonies that are in hives that I would like to transfer, but I never saw anything like the hives. They are made double and one box is in the other and they are nailed with large nails with a double top and bottom nailed on. It would be out of the question to get the brood combs for they would break when the hive is torn apart. The bees are good ones and I would like to have them and if the queen would go down into a Modified Dadant hive I could get them in a shape so I could get some good out of them. MISSOURI.

Answer.—The queen will move down from an upper story to a lower one, if the bees occupy the lower one and if there is no more room or little room left for her to lay.

Usually the best way to make a queen move is to drive her from the upper room to the lower one and arrange to make the upper room so remote that she will not want to return to it. Of course, there must be plenty of empty worker comb in that room where she finds herself confined and the bees must have facility to work in it and bring honey and pollen to it.

USING HIVES AGAIN

I had a swarm of bees die this winter, plenty of honey and pollen in hive, no case of starving; a small patch of brood and eggs two inches square on two sides of two frames, after being out ten days this part of comb started to smell kind of suspicious

of foulbrood, but no signs of anything last fall—a very strong swarm.

I shook out all dead bees and took an atomizer spray and put about two ounces of formaldehyde—straight—and sprayed all pollen and empty spaces and all over frames sealing up hive; after ten days I opened up hive and took a smell, but only one, as vapor stung the nose and eyes, sealed up hive again. Will the hive be O. K. for next summer's use, or will this formaldehyde kill a new swarm I put in, or can I wash out the combs, or what shall I do?

A super from a foulbrood swarm has some pollen in it but no honey; what can I do to ues this super again—nice straight combs and I hate to destroy the combs?

What is your idea of atomizing combs with formaldehyde, and is this practical?

MONTANA.

Answer.—Any colonies having had foulbrood need to be cleaned by fire. You may melt up the old comb into beeswax, but you had better not play with ingredients. After the combs have been melted, you had best singe the hive with flame.

Supers from foulbrood hives had best be cleaned the same way. Do not take any chances, but be thorough.

INTRODUCING VIRGIN

I had trouble with introducing queens last year. I took queen cells from my best colonies. After I had taken them out the queens came out of their cells, then I went into my poor colonies and killed the queens and immediately I released a virgin queen on the frames but I think the bees killed all these queens. How is the best way to introduce a virgin queen. INDIANA.

Answer.—The best way to introduce virgin queens is in the cells. When you have queenless colonies hatching good queens, make your hive queenless in which you wish to introduce a young queen. Then wait till the day after the hive has been made queenless and introduce a sealed queencell.

It is proper to have pretty ripe queencells. We usually get the bees to rear queen cells at a certain date, then figure on ten days after making them queenless to introduce the queen cells. This means that you must make your colony queenless, in which the queen is to be introduced at the ninth day after starting the queen-cell rearing.

TO PREVENT RUST IN EXTRACTING EQUIPMENT

I have some honey tanks and an extractor in which the galvanizing is off so they are more liable to rust between seasons.

Would it be all right to paint them inside with Aluminum paint? Or would you recommend some other preparation for the purpose of resisting rust? IOWA.

Answer.—I have never tried aluminum paint for such utensils. I believe that any paint will do that is not likely to peal off. you might try liquid beeswax. Perhaps it would keep the rust off and it would not damage the honey in handling.

Late Winter Impressions from Southeast

(Continued from page 163)

and sweet gums, gallberry, and chinquapun are all of the tree group. Cotton yields where the soil is favorable. Aster, goldenrod, and a number of other plants are valuable, but the trees and shrubs make this vast region what it is in honey production.

Land clearing and timber cutting in the past few years have been detrimental to the beekeeper. But there is plenty of honey producing flora yet. The reforestation projects of the federal government may have the effect of bringing some of these denuded hills back into production for timber and for honey.

Recently one of our popular news magazines had an article in which the Carolinas and Virginia were slightingly described as being forsaken country with no redeeming features. I found the statement far from truth. First, you have the finest, friendliest folks imaginable. Of course, you have to learn to eat grits and rice in the Carolinas or you are more or less an object of pity; and when you get to the coastal region, the man who can't enjoy raw and roasted oysters and other sea foods had best carry his dinner pail along as he will be a lonesome man anyway.

But I happened to like rice. As I come from a corn state, how could I say that grits were anything but good? And as for sea foods, they have always been on my prescribed diet and I've always been glad of it; even though I have never learned the combination of raw oysters and beer that some aspire to. However, a small glass of scuppernong grape wine so typical of the Carolinas, that was offered us by several beekeepers, was not amiss to one whose ancestors had come from the Champagne country across the waters, and who from childhood had been taught true temperance.

But we must return to beekeeping. Just what is the status in the region. The mountains and foothills and the swamps offer a lot of opportunity for box-hive beekeeping, and it is there. Except for the fine work of C. L. Sams in North Carolina and of Ned Prevost in South Carolina as extension specialists, much of the territory would still have primitive methods. Perhaps less than fifty per cent of the bees may now be in "gums" but I should say, not much less. In Virginia, where H. W. Weatherford is the extension man, working only part time, the percentage is heavier in favor of modern equipment, though there is still plenty of box hives in the more mountainous sections.

The modern beekeepers are enthusiasts, and their marketing problem is apparently one of no great consequence if the amount of money remaining in the beekeepers' hands at the time of my visit is any criterion. Rather it needs to be impressed upon the smaller beekeeper that here is a sideline from which he can secure a salable article at a profit. Most of them are prone to share their happy gain with the neighbors, which isn't a bad habit in these days of sheer commerciality.

Mr. Sams was busy with a campaign of extension in which demonstration apiaries in many counties are to be started, in cooperation with the county agents. And down there the county agents are really servants of the people; supported by the state instead of by subscribing memberships, their work seems to be more cosmopolitan. Diversification to them means a solution of the farm problem, and beekeeping works in well with such diversification. The home demonstration agents, likewise, have beekeeping, and the use of honey, as worthwhile projects, no doubt due, at least in part, to the influence of the beekeeping specialists.

And so, we attended the Virginia meeting, then the North Carolina meeting at Charlotte and crossed over into South Carolina in company with Cary of the Root-Norfolk branch and Ned Prevost. Here we held sharp, enthusiastic meetings at Gaffney, Union, Spartanburg, Anderson, Newberry and Saluda. Prevost tells the tale that Saluda got its name long ago this way: The place was becoming settled. The men folks were debating the name. Down along the river shore a negro was fishing. Not seeing his wife, he called, "Sal, you da?" and so they called it Saluda.

I have often wondered how "Carry Me Back to Old Virginia" was written, but South Carolina showed me. We were **carried** everywhere, **carried** in a car from place to place, **carried** through a cotton mill. And one of the high lights of the trip was to be **carried** to Clemson College, to the old home of John C. Calhoun, and finally to be **carried** up into the Blue Ridge mountains for a Sunday afternoon in company with Ned and Mrs. Prevost.

Such a delightful trip in winter, makes me want to go back and see it when the foliage is out; wood covered mountains with holly, rhododendrons, azaleas, and other evergreen shrubbery growing wild. It must be fascinating for the summer tourist and for the native Carolinian.

Hard Working Bees

In the spring of 1933 I bought some package bees from Texas and was surprised to find that they started work a half hour earlier in the morning than my Iowa bees and worked about an hour later in the evening, during the whole summer. When the Japanese honeysuckle bushes were in blossom the southern bees worked as late as 9 P. M. and all made a good surplus besides filling their hive body for winter. This year the Texas bees adopted the same working hours as the local bees, which goes to show that bees, like humans, will work no harder than neighbors. If bees have unions, the newcomers must have been forced to join.

O. B. Rogers,
Iowa.

PACKAGE BEES : FOR SALE :

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Each additional pound bees	.70
1-frame Nucleus, 2-lbs. bees	2.85
Each additional frame brood	.40

Safe arrival and satisfaction guaranteed.

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Box 81, Brookfield, Ga.

Where service is a fact—not a promise.

NEW JERSEY ANNUAL MEETING

New Jersey honors E. G. Carr.

The writer was privileged to attend the New Jersey annual meeting held in Trenton on January 24. In spite of a blizzard, a considerable number of beekeepers were present and a good program was given.

The feature of the meeting was reached with a banquet in the evening honoring Mr. Elmer G. Carr, who after twenty-three years as Chief Inspector of bees for New Jersey, was retiring.

One of the greatest tributes possible to Mr. Carr was paid when practically every member of the state staff, with whom he worked, was present at the banquet hall to join in eulogizing him.

Our sincere commendation goes to Mr. Carr and we hope that he may have many years to enjoy his own bees, perhaps to help many another Jerseyite in learning beekeeping directly.

It was my privilege also to meet Mr. G. S. Oettle, former editor of the South African Bee Journal, and who is now making his home in New Jersey. Mr. H. Brown, of Cape May Court House, New Jersey, who handles several hundred colonies, gave some results of specialized breeding of the stock. We hope Mr. Brown may give us some of the further details of this in columns of the American Bee Journal as well as some of his recent experiences in Russia when he was asked back by the Russian Government to give them information on beekeeping. W. S. Nolan, of the Bee Culture Laboratory at Washington, was present and gave an address on selective bee breeding.

M. G. Dadant.

Indiana County Meetings

April 3, Bartholomew County, Columbus, 1:30 p. m.; April 4, Jackson County, Brownstown, 2:00 p. m.; April 5, Floyd County, New Albany, 2:00 p. m.; April 6, Shelby County, Shelbyville, 2:00 p. m.; April 8, Decatur County, Greensburg, 2:00 p. m.; April 9, Rush County, Rushville, 2:00 p. m.; April 10, Fayette County, Connersville, 2:00 p. m.; April 11, Wayne County, Richmond, 2:00 p. m.; April 12, Union County, Liberty, 2:00 p. m.; April 13, Dearborn County, Aurora, 1:30 p. m.

Virginia Annual Meeting

Attendance at the Virginia annual meeting held in Lynchburg on January 29 was interfered with by a blizzard which had tied up traffic in the northern sections of the state. But it was nevertheless, an enthusiastic gathering.

Especially interesting was the description by Mr. T. C. Asher, of Brookneal, of his trip to the Valdosta conference, as well as a side trip on down into Florida. His description was delightful, stressing not only the fine points of the region but some of the peculiarities which can only be found by such a visit.

A. D. Hiett covered the Valdosta meeting itself and some of its highlights. J. Philip Vinson gave as good a description of moving bees to orchards as I have ever heard. He has had several years' experience in the Shenandoah Valley, and was previously located in southwestern Colorado.

J. H. Cary talked on his experiences in marketing, and the value of a standard grade, well packed and properly priced.

It was decided at the meeting to issue an invitation to the League, the Institute and the Southern Conference to hold their annual meeting at Lynchburg in 1937.

A subscription to the American Honey Institute was made by the association with much praise for the good work of the Institute. The old officers of the association were re-

elected. James Vinson, president; John Protheroe, Rustburg, Va., secretary.

North Carolina Meeting

The annual meeting of the North Carolina Beekeepers' Association was held this year at Charlotte, North Carolina, in the southern part of the state. D. L. Ray, State Inspector, gave some impressions gained from his bee inspection work.

R. W. Scott reported on the season's activity and the difficulty he has had with bears and with pests in his apiaries. F. B. Meacham gave a good address on the honey plants of North Carolina. He is now conducting a comprehensive survey of the honey plants of his state.

C. L. Sams reported on the extension activities and presented an outline of extension work which he hopes to do with demonstration apiaries in connection with the county agents during the 1935 season.

A contribution was voted for the American Honey Institute together with the approbation of the North Carolina State Beekeepers' Association. Officers elected for 1935 were R. W. Scott, Bolton, president; C. M. Hiatt, Henderson, vice-president and F. B. Meacham, secretary-treasurer.

Pennsylvania Meeting

The annual meeting of the Pennsylvania State Beekeepers' Association was held at Harrisburg, January 23-24. In connection with the Winter Farm Exhibit, beekeepers exhibited one of the finest displays of honey that it has been my pleasure to view. It would do credit to a state fair exhibit.

Some 60,000 or more farmers attended the farm exhibit each day.

The beekeepers' meeting was well attended in spite of heavy snows and a good program was given.

The Association commemorated the deaths during 1934 of two of their leading members, Rev. Father Hepner who died in May and Chas. N. Greene in November.

Harry B. Kirk, Chief Apiary Inspector, gave report of disease eradication work during the year. He worked with seven deputies examining some 36,000 colonies with a 7 and 10 per cent infection. Area cleanup work was the plan used.

The following officers were elected for 1935: E. J. Anderson, president; Mr. Cromwell, vice-president; A. T. Keil, secretary-treasurer.

Report of Committee on Production Loan Association on Loans on Bees

The Production Loan Corporation is an agency created for the purpose

Death of W. H. Moses

On February ninth, W. H. Moses, of Lane City, Texas, passed away. He was born in Vicksburg, Mississippi, and came to Wharton County fifty-one years ago. He was one of the pioneer beekeepers of this section, being in the business forty years. He was associated with the late W. O. Victor who also began his beekeeping career in Wharton County.

We show a picture of Mr. Moses typical of him when he was at work. He was always very thorough and knew the business well. He was of a kind and helpful disposition. I have often gone to him for advice and he was always glad to give it. Mr. Moses leaves a wife, two sons and a daughter to mourn his loss.

R. C. King.
Texas.

O-h! Wotta Schnozzle

Why it'd make an eggplant blush, and looka those Peepers! Whew! You'd scare H—out of the most intrepid mother-in-law.

Why don't you get a sweet tempered bee to fill those empty supers which you sport on your Hives? Make your apiary look like the real McCoy both inside and out.

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Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of American Bee Journal, published monthly at Hamilton, Illinois, for April 1, 1935.

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, rendered by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

Publishers, American Bee Journal, Hamilton, Ill.

Editor, C. P. Dadant, Hamilton, Ill.

Managing editor, G. H. Cale, Hamilton, Ill.

Business manager, M. G. Dadant, Hamilton, Ill.

2. That owners are:

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That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages or other securities are: None.

(Signed) M. G. DADANT,
Business Manager American Bee Journal.

Sworn to and subscribed before me this eighteenth day of March, 1935.

MINNIE KING,
Notary Public.

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Our Motto: Utility, Beauty and Satisfaction to the Buyer

We ship only young, vigorous, laying queens, the best that experience and careful selection can produce. We operate a chain of apiaries from Tennessee north. We rear the queens for our own northern apiaries and we guarantee them to please you.

We use no baby nuclei. All queens are reared in standard frame, large, strong nuclei, two nuclei to a ten-frame hive. Our nuclei are honey getters. Our service is prompt or your money back.

Regular stock—75c ea. Nov. 1 to May 31—50c ea. June 1 to Oct. 31.
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Select tested queens for breeders by special arrangement.

Queens for export will be carefully packed in long distance cages but safe delivery is guaranteed only in North America.

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Select Untested Queens	$ .75 each	$ .50 each
2-Pound Package with Queen	2.45 each	1.95 each
3-Pound Package with Queen	3.15 each	2.55 each
Each Additional Pound of Bees	.70 each	.60 each

For Queenless Packages take away price of Queens.

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We breed three-banded Italians only; as good as can be had. Shipped in cages as light as favorable to reach you in safety.

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PRICES

Two-Pound Package with Queen	$2.45 each
Three-Pound Package with Queen	3.15 each
Queens	.75 each

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Money-Back Guarantee
If we fail to ship your bees on the date you name, your money will be promptly returned to you.

of furnishing wholesale finance for agricultural productions. The retail distributors, or actual makers of the loans, are local production loan associations composed of the actual borrowers, all of whom own stock in the association. At present most of these local associations are composed of live stock feeders. Feeding loans are one of the highest class loans available and consequently these associations do not care to underwrite loans of a less secure nature, and particularly in lines of production with which they are not familiar and have no competent inspector to look after.

Cattle loans are made with the expectation that the cattle and the feed supply which constitutes the base of collateral, will be sold.

General farm loans or bee loans would be expected to be paid back from the crop produced and the uncertainty of crop production greatly increases the risk taken in making the loan.

Production loan associations are set up on a truly cooperative principle and wherever there is a sufficient number of producers desiring production loans of any kind they can form a loan association and avail themselves of the benefits of the Production Loan Corporation and operate under their supervision. Any financially responsible cooperative can write production loans for their members and have the papers discounted by either the Production Loan Corporation or by one of the Regional Banks for Cooperation, of which there are twelve in the United States. Cooperative association will not be anxious to write loans for commodities other than those they are dealing in and as there are very few truly cooperative honey marketing associations in the country at present, their channel of financing is not available to many beekeepers.

It is going to require considerable effort on the part of beekeepers to get their industry recognized in the Production Loan setup.

Committee: Edward G. Brown, chairman; M. C. Tanquary, Don B. Whelan.

Note of comment: "The Production Credit Corporation is a part of the Farm Credit Administration. Because of the drouth in 1934 the Farm Credit Administration set up the 'Emergency Crop and Feed Loan Section,' the service of which was made available to beekeepers for the purpose of buying sugar for colonies which had not stored enough surplus to carry them through the winter and following spring. This was purely an emergency matter and there is no assurance that that arrangement will be continued another year. If these loans have not been properly secured or there is trouble in collection of them, they may react unfavorably on bee loans."

Vigo County, North Terre Haute April 17

A meeting of the Vigo County Association was held in the High School of North Terre Haute, at 2:00 p. m., March 12. James E. Starkey was the speaker. There are 111 apiaries in the township, 68 found to have foulbrood. A number of beekeepers attended this meeting.

The April meeting of the Association will be in the new U. S. Court House and Post Office, Terre Haute, April 17th at 7:30 p. m. The Field Meet Committee has just reported that they plan a field meeting in June this year. William A. Pogue, President.

Utah Annual Convention Report

The Utah State Association held its annual convention at Hotel Newhouse, Salt Lake City, January 25 and 26. It was considered more successful than any held in the past few years. The first day was given over chiefly to discussions of interest. Dr. Hendricks reporting on state inspection said that in the 1365 apiaries in Utah, there were 54,709 colonies and of this number 2.1 per cent were infected with American foulbrood.

This is rather high but we feel optimistic because Dr. Hendricks means business in his cleanup campaign and with a well formulated follow-up inspection this spring, the percentage should be reduced. Dr. Hendricks also stated that the average colony production for 1934 was 41 pounds per colony for the state.

The Convention was held in conjunction with the Utah State Farm Bureau's annual meeting and at the banquet a honey candy bar was passed out to each person with gratifying results. The bar was delicious and I am sure will make many new friends for honey.

Probably the greatest accomplishment was the adoption of a budget plan where members of the Association will contribute to American Honey Institute. The dues will be $2.50 a year, one dollar going to the Utah Farm Bureau with which we voted to affiliate, one dollar being the dues of our organization and fifty cents which will pay for any bee journal the member selects. Members having less than a hundred colonies would not be required to contribute to American Honey Institute. Those having from one hundred to two hundred colonies will contribute $1, two hundred to five hundred colonies $2.50, five hundred to seven hundred and fifty $5, seven hundred and fifty or over $7.50.

Honey receivers were appointed in all parts of the state to take the payments in honey if the members so desired. The honey will then be taken to the Superior Honey Company of Ogden, Utah, the official receiver for the state of Utah appoint-

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Our queen yards have our personal care. Nothing is left to careless inexperienced help. A LIFE TIME with the Bees COUNTS. WE KNOW HOW.

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We are now shipping bees and are prepared to move out large quantities of over-weight packages of young bees on short notice. Place your order now for choice of shipping dates wanted and get your bees when wanted. Safe arrival, freedom from disease and satisfaction always guaranteed. Health Inspection Certificates with every shipment and the necessary papers with Canadian shipments for rapid clearance through custom houses. If you have never tried our bees, ask anyone who has and if we can not please you in every regard we do not want your money. Our cages are constructed light to enable you to save some on express and you will find less supersedure among our queens if properly introduced. Fast express trains from here will save many hours on your shipments.

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Select Young Laying Italian Queens, 75c each, any number. Tested Queens, $1.50 each, any number. 2-lb. Packages Italian bees with queens, $2.45 each, any number. 3-lb. Packages Italian bees with queens, $3.15 each, any number.

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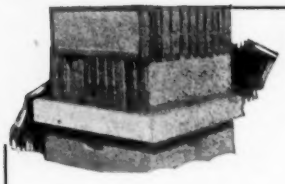

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ed by American Honey Institute. The honey receivers will also act as solicitors for new members.

By this method, we hope to arouse the beekeepers of the state to the importance of organization and the possibilites offered by American Honey Institute.

A life membership was awarded to F. B. Terryberry, L. S. Heywood, R. T. Rhees and D. H. Hillman for their long and untiring service. The following officers were elected: president, A. W. Anderson; vice-president, R. T. Rhees; secretary, Leslie H. Walling; directors, O. L. Malmgren, Ray N. Miller.

Leslie Walling,
Secretary.

Wisconsin Occupational Tax

The Wisconsin Association, through its official board, has voted to endorse an Occupational Tax on bees of 25 cents on the first colony and 10 cents on each additional colony. The funds so raised will, we suppose, go into the general funds of the state and in part to the appropriation for foulbrood control.

The idea of a license fee was also considered but since experience elsewhere indicates that a considerable proportion of such a fee is used in making the collection and since the fee could not be used for foulbrood control as readily as an appropriation, the idea was abandoned.

H. J. Rahmlow, Cor. Secretary,
Wisconsin.

Peterson, Popular Illinois Secretary Weds

Announcement comes of the marriage of Edwin Franklin Peterson, of Kewanee, Illinois, Secretary of the Illinois State Beekepers' Association, to Dorothy Heath, Saturday, March 16.

Edwin is the son of Lawrence Peterson, and with his father, is engaged in comb honey production at Kewanee. All Kewanians know Peterson honey and Peterson honey displays. Must be business is good since Edwin takes a bride. We wish you both bon voyage—and please introduce us to the young lady sometime, Edwin.

Colorado Inspection 1934

State Inspector R. G. Richmond of Colorado reports for 1934, 44,081 colonies inspected.

Of these, only 845 were diseased or less than 2 per cent which shows a very fine reduction.

Mr. Richmond has some 24 inspectors working under him and they carry on regional work, thus bringing the cost per colony of inspection to a minimum. His report shows per colony inspection cost of slightly less than 5 cents.

Crop and Market Report

Compiled by M. G. Dadant.

For our April Crop and Market page, we asked reporters to answer the following questions:

1. How much honey on hand?
2. Are sales holding up?
3. How are bees coming out of winter?
4. Honey plant prospects?

Honey on Hand

Throughout all of the Northeast and Southeast, honey seems to be practically cleaned up with very few lots available and just enough to fill local orders.

The same holds true over practically the entire South except perhaps Texas where the amount available will not more than carry into the new crop. As a matter of fact, the same conditions exist except that in the states of Michigan, Minnesota, Wisconsin and possibly in Iowa and Illinois, there are some lots which are held in the hands of producers who are asking a higher price. Even in these instances, there would probably not be over 10 to 20 per cent of the entire crop left which is a very small proportion.

In fact the only sections outside of the ones previously mentioned where there seems to be any honey left at all would be in the intermountain territory where there are reports of some cars left in Idaho, Colorado, Utah and Arizona. A proportionate amount in these instances also, however, would not exceed 20 per cent of the crop and perhaps much less than that.

Honey Sales

In practically all instances also we have reports that honey sales are moving along very satisfactorily and there has been a considerable pickup since February 20. In fact quite a large number of beekeepers are sold out or having to buy to supply their customers until the new crop comes in.

While it is true that the demand for carload lots of honey has slumped somewhat during the last three weeks, it is our opinion that as the stocks gradually clean up in the spring, there may be another spurt of demand a little later on although this is, of course, questionable.

Condition of Bees

All in all, we believe the condition of bees in 1935 is far better than it was a year ago. There is some question in some parts of New York as to whether the bees will come out satisfactorily owing to the extremely long severe spell of weather but there is no doubt but that bees will come through much better than they did a year ago when such heavy losses were encountered in New York and surrounding sections.

In the Southeast, bees are coming through in excellent condition although perhaps somewhat short of stores and this applies to the entire country where the early honeyflows are already beginning.

In the north central states and the extreme northern sections, the bees seem to be coming through in at least normal if not above normal conditions and the same extends into the intermountain territory.

Along the Pacific coast in southern California particularly, the bees are also coming through nicely although there was quite a large loss of bees last fall through starvation and it is doubtful whether the balance of the bees will be able to make up the loss and produce sufficient orange honey to keep it up to normal.

In the Canadian provinces, it is a little early to make any prediction as to the condition of bees but the purchases of package bees are undoubtedly extremely heavy both for increase and for the replacement of such loss as may be occasioned.

Honey Plants

In the northeastern sections of the United States, the honey plant conditions are going to be the equal of last year although some reports are coming in of bare ground and loss of clover as a result. However, there will be far more bees to gather the honey than there was a year ago and this should make up for any bad condition in honey plants.

In the southeastern sections, honey plants seem to be at least normal if not above normal except in Florida where the extreme freeze during the winter damaged the orange and many other trees. This was followed by some dry weather which did no good.

Georgia seems to have gotten some rains now which make prospects look far brighter than they were a month or two ago although there is still a deficiency of moisture.

The southern states are practically normal. The spring has been backward owing to heavy rains and the package shippers are beginning to get somewhat impatient.

In the central states, honey plants do not show the promise they did a year ago, just simply because of the extreme drought during 1934. This means that there will be practically no white clover and the beekeepers will have to depend largely on sweet clover. Even sweet clover in many sections was affected by the drought and the stand is thin or farmers are plowing up. However, we do not believe that conditions have been severe enough to affect the sweet clover very much and in some instances the late rains last fall did help the white clover so that there may be a scattering of this in certain sections.

Conditions look far better in Michigan, Wisconsin and in most of Minnesota than they did a year ago. Good rains have fallen there, honey plants are in a satisfactory condition including sweet clover and white clover.

When we come to the plains territory, conditions are satisfactory in the eastern half of the plains territory but the western half of the states of North Dakota, South Dakota, Nebraska and Kansas and Oklahoma as well as northwest Texas, are suffering badly from the drought yet. Local rains have given some moisture to the surface soil but there is practically none in the subsoil and unless rains come during the spring, conditions will be anything but satisfactory. Even in the face of such difficulties, however, sweet clover seems to have survived and satisfactory rains during the spring may yet lead to fairly good honey crops.

In the intermountain territory, conditions seem to be normal with more than the usual amount of snow in the mountains which should lead to satisfactory irrigation and generally we believe that the beekeepers are looking forward to a more satisfactory year than in 1934. On the Pacific coast, conditions are excellent, particularly southern California which has been favored with rains such as they have not known for a good many years at this season of the year and beekeepers everywhere are encouraged and anticipating something more than an ordinary crop.

In the Canadian provinces, conditions are about normal although all of the deficiency of moisture last year has not been made up. However, there have been considerable snows and sweet clover has come through owing to the fall rains in fairly satisfactory condition as far as can be reported at present.

Summary

All in all, it looks like there are possibilities for at least an average crop this year and perhaps considerably more than in 1934. A drought, of course, would do worse damage than a year ago. The white clover sections cannot expect anything flattering this year and will have to be satisfied with sweet clover.

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THREE-BANDED Italian bees and queens, that are real honey gatherers and gentle to work with, for 1935, at code prices. Satisfaction guaranteed or your money returned. Alamance Bee Company, George Elmo Curtis, Mgr., Graham, North Carolina.

ISLAND BRED dark Italian queens. $5 each. Choicest, $10. Send check or money order. First write Bee Culture, Washington, D.C., for permit to import queens. See ad in Dec. A.B.J. E. L. Sechrist, Papeete, Tahiti.

PACKAGE BEES, Nucleus and Queens. Three-band Italians. Gray Caucasian. Priced to save you money. Parcel Post or Express..
Crenshaw County Apiaries, Rutledge, Ala.

BRIGHT THREE-BANDED Italian Bees and Queens for early shipment. In our many years of carefully selecting and breeding, from the best each year, our breeding career has always been to breed bigger queens that produce bigger, better bees, with all good qualities as nearly perfect as possible. Our strain will absolutely please you or we will refund your money. Write us for best prices. Our friendly, courteous, satisfactory service awaits you. Central Louisiana Apiaries, Bordelon and Caldwell, Marksville, Louisiana.

QUEENS, PACKAGE BEES. Queens 75c. Two pound bees with queen, $2.45; three pound, $3.15. 15% discount to dealers. Will trade for foundation, wax, excluders, frames, etc. Blue Bonnet Apiaries, Rt. 1, Box 33, Mercedes, Texas.

BEST MOUNTAIN GRAY Caucasian Bees and Queens. Select queens 75c each. 2-pound package with queen, $2.45; 3-pound package with queen, $3.15. Full weight. Safe arrival guaranteed.
P. B. Skinner Bee Co., Greenville, Ala.

OFFERING BEST Italian Queens and Package Bees; also Bee Supplies. Booking orders for spring delivery. Satisfaction Guaranteed. N. S. Gladish, No. 5 Hobbs Road, Nashville, Tenn.

PACKAGE BEES AND QUEENS, Italians—Caucasians. Quality and personal service at marketing agreement prices.
Weaver Apiaries, Navasota, Texas.

GOLDEN—These queens are pure Italians bred from the three-banded by selecting the yellower and line breeding for honey as well as color. They are just extra yellow Italians, good honey gatherers and very gentle to handle. Tested $1.50. Select tested $2.00. Untested about May, 75c.
D. T. Gaster, Rt. 2, Randleman, N. C.

GOLDEN QUEENS tested only, price, $2.00. Booking orders for May shipment. Satisfaction guaranteed.
H. G. Karns, Green Bay, Virginia.

CAUCASIANS, outstanding disease resisting, northern acclimated queens. Booklet about them. Young queens May 1; no packages. Code prices. Bird's Apiaries, Odebolt, Iowa.

WE OFFER FOR 1935 the same bright yellow Italian queens, as good as any you can buy. Under marketing agreement 75 cents each, any number you buy. Satisfaction guaranteed in U. S. and Canada. E. A. Simmons Apiaries, Powell Owen, Mgr., Greenville, Alabama.

HARRELL'S bees and queens. Code prices.
Albert Knack, Geneseo, Illinois.

PACKAGE BEES and Queens for sale. We ship overweight packages of young bees on the day you want them. Will furnish you Three-Banded Italian bees and queens that will get the honey; winter well. Prices for 1935—Select young laying queens, 75c each. Two-pound package with queen, $2.45 each. Three-pound package with queen, $3.15 each. By express collect. 15 per cent discount to dealers. Health certificate with all shipments. Safe arrival guaranteed. Little River Apiaries, Box 83, Gause, Texas.

NORTHERN BRED Italian Queens. After June fifteenth. R. Wilson, Paxton, Nebr.

EXTRA YELLOW ITALIAN QUEENS that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested about May 1, 75c each; tested, $1.50 each; select tested, $2.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. No. 2, Randleman, N. C.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

CHOICE Michigan Clover Honey. New 60's.
David Running, Filion, Michigan.

WHITE clover extracted honey. Write for prices and sample.
Kalona Honey Co., Kalona, Iowa.

CHOICE WHITE CLOVER HONEY in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. THE COLORADO HONEY PRODUCERS' ASSN., 1424 Market St., Denver, Colorado.

FINE QUALITY Mangrove honey in new sixties. Sample 6c.
Peter W. Sowinski, Fort Pierce, Florida.

BLACK HILLS—White extracted honey in 60-lb. cans. Samples 25c.
Ernest W. Fox, Fruitdale, S. Dakota.

EXTRACTED AND COMB white clover honey. Sample 10c.
F. W. Summerfield, Grand Rapids, Ohio.

NUMBER ONE COMB HONEY, quantity lots, two-fifty per case.
N. B. Querin & Son, Bellevue, Ohio.

WE OFFER White and Buckwheat extracted honey in pails or 60-lb. cans; also comb honey. Reasonable prices. A. I. Root Co., 224 West Huron St., Chicago, Ill.

FOR SALE—300 cases No. 1 to fancy clover comb honey, carrier lots $2.50 per case; cellophaned, $2.75. Amber extracted, 6½c.
H. G. Quirin, Bellevue, Ohio.

WHITE CLOVER-BASSWOOD extracted honey, 7c. A. J. Wilson, Hammond, N. Y.

FOR SALE—A large car white sweet clover alfalfa honey.
Geo. Seastream, Moorhead, Minn.

RASPBERRY—Clover—Milkweed—fine table stock. One large car 7c for prompt acceptance. New cans and cases.
Ira D. Bartlett, East Jordan, Michigan.

FOUR TONS BUCKWHEAT, two tons amber in sixties.
Chestnut Ridge Apiaries, Lockport, N. Y.

AMBER IN NEW 60's, 6c.
E. S. Miller, Valparaiso, Indiana.

MICHIGAN'S FINEST white clover. No disease. New sixties. Overweight. 7½c.
John McColl, Tecumseh, Michigan.

HOWDY'S HONEY—Our best grade 1934 crop white, Michigan, clover extracted in new sixties, any quantity up to amount left on hand. 7½c per pound f.o.b. Ithaca. Howard Potter, Ithaca, Michigan. Personal: 1200 Mass. Ave., Cambridge, Mass.

BARGAIN PRICES on Extra White, Extra Fine Clover Honey. Sample 15c.
Edward Klein, Gurnee, Illinois.

HONEY FOR SALE. Also new honey gate for 60-lb. containers. See display advertisement page 186. Ernest Fahlbeck, 406 Springfield Ave., Rockford, Illinois.

FOR SALE—A few tons of white honey in new cans. Roy Littlefield, Exira, Iowa.

WHITE CLOVER COMB HONEY.
Charles Guhl, Rt. No. 7, Napoleon, Ohio.

FOR SALE—7000 lbs. of Basswood honey. Also 2000 lbs. of light amber.
Hesseling's Honey Farm, Potosi, Wis.

HONEY AND BEESWAX WANTED

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—HONEY and BEESWAX. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. CALIFORNIA HONEY COMPANY, Hamilton & Company, Agents, 108 W. Sixth Street, Los Angeles, California.

WANTED—Extracted Honey. Send sample and price delivered to T. W. Burleson & Son, Waxahachie, Texas.

WANTED—Light and amber honey.
Riverside Apiaries, Russell, Illinois.

WANTED—Please send sample and quote lowest cash price on light amber or white honey in ton lots or more. Signed, C. J. Morrison, 1235 Lincoln Way West, South Bend, Indiana.

WANTED—Several truck loads of white extracted honey.
Old Taylor Honey Co., Chandler, Okla.

WANTED — Buckwheat combs and other honey. Also sorghum and maple syrup. Can use sugared combs, any kind, cheap.
Heaven City Apiaries, Mukwonago, Wis.

CASH FOR DARK AMBER HONEY. George Anderson, 618 N. 20th St., Milwaukee, Wisconsin.

FOR SALE

FOR SALE — 25 ten-frame Jumbo supers with combs on Dadant wired foundation, $2.10 each. Reuben Moin, Rice Lake, Wis.

WILL TRADE package bees and queens for honey. Also bee supplies. OLD DOMINION HONEY CO., LYNCHBURG, VIRGINIA.

FOR SALE OR TRADE—For extracted honey, old-fashioned round straw beehives.
G. Korn, Berrien Springs, Michigan.

SIXTY STANDS OF BEES in good condition for sale at once. Joe Burdzilauskas, 505 N. Walnut St., Pana, Illinois.

BARGAIN LIST—Smokers, veils, box seats, section presses, excluder sheets, frames, extractors and comb honey cartons. Write G. B. Lewis Company, Watertown, Wisconsin.

HIGH GRADE BEES, guaranteed no disease, in standard hives.
George Schilling, State Center, Iowa.

WANTED

WILL TRADE large new radial extractor for package bees.
La Verne Roose, Sac City, Iowa.

ADVERTISING PAGES REMOVED

Honor Roll

AMERICAN HONEY INSTITUTE

EXPLANATIONS ON THE HONOR ROLL—

* indicates those members received through the **Free Queen Offer Made by Stover Apiaries, Mayhew, Mississippi.**

† indicates those members realized through the **Free Queen Offer of S. J. Head, B. & B. Apiaries, Atchafalaya, Louisiana.**

Memberships listed here were received during the period from April 1, 1934, to December 31, 1934.

Michigan (continued from page 145, March)

Brown, Donald, Morrice	1.00
Barger, F. E., Charlotte	1.00
Rossman, Elmer F, Pontiac, Rt. 3	1.00
Potter, Howard Jr., Ithaca	1.00
LaFleur, Clarence, Midland	1.00
Bissinger, Harvey Muskegon	1.00
Hansen, Richard, Walled Lake	.50
Pratt, D. J., Detroit, 18115 Lahser	.50
Ives, Roy C., Chelsea	.50
Total	$225.40

Minnesota

Sundberg Bros., Fergus Falls	$ 25.00
Seastream, Geo., Moorhead	25.00
N. D. Bee Supply & Poultry Co., M. W. Cousineau, Mgr., Moorhead	15.00
Marquette, Fred, St. Hilaire	14.40
Harberg, Harry, Halstad	7.00
Holt, Mrs. C. T., Litchfield	6.00
A. I. Root Company, St. Paul, 290 E. 6th St.	5.00
Sisters of St. Benedict, Crookston	5.00
Andersen, Iver C., Lake Benton, Rt. 2, Box 22	5.00
Sundean, Harold A., Crookston	5.00
Eggers, Henry, McIntosh	4.00
Funk, R. D. & Son, Hills	2.00
*Brown, Wm. J. N., Dent	2.00
Kauba, Harry, Hutchinson	1.50
Rogers, H. E., Sauk Center	1.50
*Johnson, Paul, Callaway	1.00
Gerlach, A. E., Arlington	1.00
Nelson, Chris, Sandstone, Rt. 1, Box 52	1.00
Tanquary, Dr. M. C., St. Paul, University Farm	1.00
Norum, Elmer, Hallock	1.00
Menefee, R. S., Morton	1.00
Penhallegon, M. S., Princeton	1.00
*Barbisch, G. A., LaCrescent	1.00
*Whissel, Thomas, Minneapolis, 4401 Wentworth	1.00
*Stickney, L. A., Minn. City	1.00
Hofmann, Chas. S., Janesville	.90
Total	$134.30

Mississippi

Merrill Bee Company, Bucatunna	$25.00
Hummer, Glen, Prairie Point	5.00
Mullens, O. N., Natchez	5.00
Blankenship, L. H., Natchez	5.00
Chapman, Katherine, Mayhew	5.00
McCollum, Dee, Mayhew	5.00
Fortune, M. S., Mayhew	5.00
Stover, F. M., Mayhew	5.00
Coleman, E. W., Gunnison	4.00
James Boy's Apiary, Sumner	3.00
Blankenship, E. R., Natchez	2.00
Langford, D. J., Mayhew	2.00
Blankenhip, Edgar, Mayhew	1.00
Blankenship, F. F., Mayhew	1.00
Blankenship, Lawrence, Mayhew	1.00
Blankenship, J. D., Mayhew	1.00
Askew, Joe, Mayhew	1.00
McGee, Curtis, Mayhew	1.00
Richardson, Jesse, Natchez	.50
Tillas, Burnett, Natchez	.50
Marten, Clyde, Natchez	.50
Cobb, T. B., Natchez	.50
Total	$79.00

Missouri

Wilson, Dr. Wm. C., St. Charles	$3.00
*Coyner, Fred M., Lee's Summit	2.00
*Beauchamp, J. W., Doniphan	1.00
*Courtright, Fred R., Webster Groves, 716 Atalanta Ave.	1.00
*Kelm, H. A., Webster Groves, 663 Atalanta Ave.	1.00
Kalthoff, Carl, Higginsville	1.00
Total	$9.00

Montana

Criger, Chas. E., Livingston, Box 308	$2.00
Miles, I. B., Whitehall	1.00
Miller, Hiram, Helena	1.00
*Miller, Addison, Stanford	1.00
Nichol, Mary, Nashua	1.00
Total	$6.00

Nebraska

Brand, W. T., Mitchell	$25.00
Martin, A. A., Mitchell	12.00
Barnes, Ralph W., Morrill	10.00
Cavett, Chas., Bayard	8.70
Bare, O. S., Lincoln	5.00
Lutes, J. H., Stapleton	5.00
Warga, Charles, Plattsmouth	4.24
Watt, Geo., Kearney	4.00
Gordon, Eugene F., North Platte	3.60
Wilson, A. T., Arcadia	2.50
*Malmrose, Wm. T., St. Libory	2.00
Gates, L. M., Lincoln	1.40
*Reeder, Vernon, Chapman, Rt. 1, Box 160	1.00
Royle, Russell, Scottsbluff, 911 12th Ave.	1.00
Meyer, F. W. Apiary, Omaha, 4702 52nd St.	1.00
Whelan, D. B., Lincoln	1.00
*Nielsen, Benj., Aurora	1.00
Nielsen, Mrs. Benj., Aurora	1.00
*Feeken, Otto, Crete	1.00
Gentry, H. E., Gering	1.00
Powell, Floyd, Minatare	1.00
Prochet, Elmer, Mitchell	1.00
Donehey, F. W., Gering	.50
Total	$93.94

Nevada

Churchill Co. Bee Ass'n, Mrs. F. Lima, Fallon	$10.00
Washoe County Bee Ass'n, Geo. Schweiss, Reno	2.26
Total	$12.26

New Hampshire

*Hunt, Joseph A., Charlestown	$1.00
*Heath, Kirk M., New London	1.00
Townsend, P. N., Lebanon	1.00
Total	$3.00

New Jersey

New Jersey Bee Ass'n, Pennington	$27.60
Barclay, Richard D., Riverton	25.00
Anonymous, Chatham	5.00
Allen, Watson, Bernardsville	1.00
Metz, Adam, Little Falls	1.00
Durfee, H. A., Bernardsville	1.00
Katzenstein, John, Franklin	1.00
Hawk, C. L., East Orange, 322 Rutledge	1.00
Van Ogen, John, New Vernon	1.00
Schubert, Jos., Trenton, 924 S. Clinton	1.00
Jones, H. E., Bernardsville	1.00
Nucke, Fred, Paterson, 160 N. 25th	1.00
Bowen, Dr. E. E., Towaco	1.00
Thron, Leslie, Irvington, 17 Orange	1.00
Buser, Samuel, Paterson, Rt. 3	1.00
Gierke, Mrs. William, Little Falls, Rt. 1	1.00
Riker, Clarence B., West Orange, 823 Pleasant Valley	1.00
Thommen, August, Oakland	1.00
*Duerr, Karl B., Fair Lawn, 10 Burnham Pl.	1.00
*McClain, W. H., Washington, 64 W. Johnson	1.00
Kuzel, H. F., Dunellen, 232 Walnut	1.00
Total	$75.60

New Mexico

*Parrott, Russell, Datil	$1.00
Total	$1.00

New York

Chazy Orchards, Inc. (J. Gelder), Chazy	$ 25.00
Lamkin, Fred D., King Ferry	15.60
Empire State Honey Prod., Syracuse	12.00
Grimble, Howard, Holcomb	10.80
Lane, E. L., Trumansburg	7.80
Lane, Roger, Trumansburg	7.80
Lesser, F. W., Fayetteville	7.80
Coggshall, A. L., Ithaca, Rt. 4	7.20
Ransom, Burnett, Waterville	7.20
Keet, L. C., Watertown, 1003 LeRoy	7.20
Sprout, James H., Lockport	7.20
Adams & Meyers, Ransomville	7.20
Dye, A. Gordon, Rochester, 18 Conklin	5.00
Stratton, S. S., Newark Valley	5.00
Van Scoy, Homer, Candor	5.00
Garwood, Wm., Batavia	4.00
Windish, Dick, Ithaca, Rt. 4	4.00
Norris, Geo. E., Batavia, 148 Ross St.	4.00
Clark, Everett H., Wyoming Co. Farm Bureau, Warsaw	3.00
Vaughn, L. C., Lysander	3.00
Henderson, Clarence, Central Square	3.00
Cortland Co. Bee Ass'n, Mrs. M. Feint, Dryden	3.00
Selbst, Ben, Fallsburgh	3.00
Smith, D. D., Wyoming	2.00
Scofield, J. Stuart, Kirkwood	1.00
*Arnold, Tom, Seneca Falls	1.00
Snyder, Mrs. Maude A., Cherry Valley	1.00
Minard, George F., Fillmore	1.00
*Webb, W. T. A., Sidney	1.00
*Riester, Peter, Auburn	1.00
*Riester, John, Auburn	1.00
*Riester, Paul, Auburn	1.00
*Lockrow, Clarence B., Buskirk	1.00
*Dietrich, Wm. J. S., Brooklyn, 27 Moffat St.	1.00
*The Jones Apiary, Sauquoit	1.00
*Willets, Arthur, Putnam Sta.	1.00
Hanus, V. T., Elmira	1.00
*Coverdale, Thomas, Leicester	1.00
Turverey, R. C., Ionia	1.00
*Dunn, Homer, Lisbon	1.00
*Moyer, Geo. B., Fort Plain	1.00
Collier, Jonas, Coxsackie	1.00
Hudson Valley Soc. of Apiculture, Francis Stillman, Sec., Cornwall	1.00
Closs, W. H., York	1.00
Moore, Chas. E., Catskill	1.00
Stone, Geo. W., Niagara Falls, 123 56th St.	1.00
Took, F. D., Campbell	1.00
Schwoebel, W., Jamaica, Long Island, 8640 139th St.	.50
Sullivan, R., Jamaica, Long Island	.50
Total	$190.80

North Carolina

N. C. State Bee Ass'n, F. B. Meacham, Secy., Raleigh	$25.00
Jordan, F. R., Wilmington	10.00
*Wilkie, J. P., Fletcher	2.00
Reid, J. W., Whitakers	1.00
*Jurney, C. C., Statesville, Rt. 5, Box 110	1.00
*Farlow, J. K., Guilford College	1.00
*Patterson, W. A., Asheville, 208 Lexington Ave.	1.00
*Williams, J. B., Biltmore	1.00
Total	$42.00

North Dakota

Bell, Gordon, Grand Forks	$ 5.00
Munro, J. A., Fargo, N. D. Ag. College	5.00
Fischer, E. H., Kellys	1.00
Bott, Geo. H., Van Hook	1.00
Gulden, L. M., Englevale	1.00
Total	$13.00

Ohio

Ohio State Bee Ass'n, Columbus	$ 25.00
Long, Emerson, Conover	25.00
Achord, W. D., Findlay	25.00
Morris, D. H., Swanton	15.10
Moore, J. F., Tiffin	10.00
Greene Co. Beekeepers' Ass'n.	8.49
Diebel, J. H., Columbus, 972 Cleveland Ave.	5.00
Seneca Co. Bee Ass'n, J. F. Moore, Sec., Tiffin	5.00
Vittel, Julius, Medina, 401 S. Huntington	5.00
Muskingum Valley Bee Ass'n, Zanesville	5.00
Lucas Co., Bee Ass'n, Grand Rapids	5.00
Cuyahoga Co. Bee Ass'n, Cleveland, 5729 Flowerdale Ave.	5.00
Hurst, Carl & Son, Williamsport	4.92
Mills, L. A., Greenville	4.00
Starr, Homer H., Berea, 204 E. Rd.	2.00
Licking Co. Bee Ass'n, E. W. Stough, Sec., Newark	2.00
*Tipton, John, Buena Vista	2.00

This Honor Roll occupies several pages. It began in February and will be continued in the May number. If your state is not included above, therefore, look for it in February, March, or later issues. If any name is mis-spelled or if any name is omitted, please write at once to either the American Bee Journal or to American Honey Institute, Madison, Wisconsin.

THIS SPACE CONTRIBUTED BY DADANT & SONS, HAMILTON, ILL.

The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

A number of letters have been received in answer to the query as to the influence of soil on the yield of honey from buckwheat. All letters so far have reported good yields on sandy soils with less on heavy soils. We have yet to learn of few consistent yields year after year where buckwheat is planted on clay soils.

— : —

In this connection comes an interesting letter from A. G. Woodman to the effect that sweet clover is disappointing in its yields in northern Michigan. Much of the soil in that region is a sandy loam which is ideal for vegetables. Great differences have been observed in the behavior of sweet clover in different localities and it is probable that the soil may be responsible. Eastern beekeepers report many disappointments because sweet clover failed to yield for them as it does for the bee men of the West.

— : —

I am indebted to W. J. Dunn, of Covington, Tennessee, for a bundle of nice little persimmon trees for planting this spring. Mr. Dunn writes that if I like opossum it is only necessary to wait until the fruit of the persimmon tree gets ripe to prepare the potatoes and put on the kettle for "Mr. Possum" will be waiting at the tree. I like persimmons very much, as I do figs and even pawpaws but the meat of opossum is too rich for me.

— : —

In all the search for the reason of the common supersedure of queens shipped in packages, may it not be as suggested by Mr. Puett, that in some cases too many old bees are included which die shortly and leave the newly established colony with insufficient working force to carry on until the new brood is emerging?

— : —

One is impressed by the favorable notices in foreign bee papers concerning **Phacelia tenacetifolia** for bee pasture. In Germany it is regarded favorably for green forage for cows, horses, goats and hogs as well. It is a native of California and a desirable addition to the flower garden. I have grown it with considerable satisfaction in my mid-west flower garden. It is an interesting and unusual flower which is very attractive to the bees. Claimed to be the best honey plant in Europe.

— : —

My four year old grandson, Franklin, calls me "Honey Dad" and my wife "Honey Grandma." This to distinguish us from his other grandparents whom he speaks of as "Grandfather" and "Grandmother." Evidently the significance of one's calling impresses itself on the children at an early age.

— : —

Just now his daddy, Kent, having sold his newspaper is paying us a visit and taking a little vacation before deciding on his future course of action. Accordingly we are getting acquainted with the youngster, his "Mamma-Mickey" and brother David. Incidentally there is a revival of the series of "Lives of Famous Beekeepers" which becomes possible with the present leisure.

— : —

Mr. Jake Marty, of Riley, Wisconsin, is preparing to establish a basswood grove. Forty years ago the bee magazines were full of discussion about basswood honey but of late the trees have been cut down so generally that we hear very little about it any more. Now that marginal land is so low in price it offers an interesting diversion to the beekeeper to plant honey yielding trees as Mr. Marty is doing.

— : —

Here comes G. H. Mays, of Goshen, Indiana, with a report that he seldom gets buckwheat honey from sandy locations but always gets it from fields on black soil. Some of the fields have grown nothing but buckwheat for twenty years. This is a bit confusing just when we thought we had found a satisfactory explanation of the difference in behavior. It is important that enough reports be secured to find what can be depended upon, if anything.

Bro. M. Paschal, of New Melleray Abbey, Peosta, Iowa, writes that catnip seed can be had from Burgess Seed Co., Galesburg, Michigan, at ten cents per packet or 65 cents per ounce. He plans to sow a bit of catnip this season as do a number of our readers who are interested in honey plants. W. T. Clark, of Delphos, Ohio, calls attention to the fact that catnip seed can be had from W. Atlee Burpee, of Philadelphia, or Peter Henderson Co., New York.

— : —

So many requests for seed of the blue flowered sweet clover or balsam clover have come in that we have divided what seed we had into very small packets and made it go as far as we could. It is to be regretted that there was not enough seed to send a liberal sample to every applicant. We only had a few ounces of seed and it could not be made to reach very far.

— : —

A most interesting letter comes from J. C. Elliott, of Columbus, Kansas, with notes which cannot be fully considered here just now for lack of room. One of the most interesting refers to a man seriously troubled with asthma who found relief by the use of honey which contained a teaspoonful of sassafras oil to the pint.

— : —

Mr. Elliott also mentions the difference in color of honey from the same plant in different regions and states that bees near a buckwheat field in the vicinity of Columbus last season stored considerable honey which was light and rather mild. In the so-called buckwheat regions the honey is very dark and strong. I have noticed that honey which apparently came from buckwheat in the sandhills of Nebraska was much lighter and milder than buckwheat honey from the eastern states.

— : —

O. M. Harrington, Route 8, Box 115, Seattle, Washington, is an elderly man who would like to work for a beekeeper in the Northwest for board and room and a chance to learn beekeeping.

— : —

One of the most interesting of introduced honey plants is the wild thyme. It has become naturalized in a few localities in Vermont and New York and is the source of good crops of high quality honey. L. N. McLean, of Richfield Springs, New York, reports that it yields honey steadily from July until frost in September. It spreads over waste land but does not become a weed in cultivated fields so is not harmful to anyone.

Mr. McLean says that he has started several plots from seed and that it spreads readily on sandy soils but he has had little success with it on heavy soils.

— : —

Mr. McLean indicates that he will be willing to secure seed for interested beekeepers next fall when the seeds ripen. Those who want seed should remember to send along a few stamps to cover the bother of securing and mailing it.

— : —

With reference to the discussion of alfalfa as a honey plant, William K. Freeman, of Tell City, Indiana, says that "close observation over a period of three years failed to disclose a bee on it." He never saw bees work soy beans either. That alfalfa yields best under dry atmospheric conditions is becoming well known.

— : —

Mr. Roy S. Weaver, of Navasota, Texas, writes that in his opinion much of the so-called cotton honey from the lower Brazos and Trinity River valleys comes from Ladies Eardrops (**Brunnichia**). When first stored the honey has a green appearance but is of good color and flavor when well ripened. Very often beekeepers are mistaken as to the source of their honey and credit it to some plant other than the one from which it comes.

FRANK C. PELLETT.